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BEING

AN INVESTIGATION OF HOMŒOPATHY AND OTHER MEDICAL SYSTEMS.

BY

WILLIAM SHARP, M.D., F.R.S.,

FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON, ETC. ETC.
FORMERLY SENIOR SURGEON TO THE BRADFORD INFIRMARY.

> "I claim that liberty, which I willingly yield to others, the permission, namely, in subjects of difficulty, to put forward as true such things as appear to be probable, until proved to be manifestly false."
>
> WILLIAM HARVEY.

THE TENTH EDITION.

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TO

THE MEDICAL PROFESSION

THESE ESSAYS

ARE

RESPECTFULLY DEDICATED

BY THE AUTHOR,

A DEVOTEDLY ATTACHED MEMBER OF THAT

FACULTY.

PREFACE.

WHEN we look at a picture we imagine ourselves standing where the artist stood, so as to look at it from the same point of view. We endeavour to understand the design he had in painting it, and the impressions he wished to produce in the mind of the spectator. In this manner we see the picture as the painter saw it, and receive instruction and pleasure.

It is in the same manner that we should read a book, if we would receive instruction and pleasure from it.

Little need be said on the contents of the following Essays—they speak for themselves. Their main design, it will be seen, is to separate facts from conjectures, and to remind men that our knowledge of individual facts is limited to the teaching of our bodily senses.

If occasionally a word is used which seems to have a hypothetical meaning—as the word *affinity*, for example—it must be understood that it is used only to express a fact, not to explain it. An old word has been employed in preference to the coining of a new one, but not in any speculative sense.

With regard to the writings of others it has been the earnest wish of the author to do justice to all; but, living in the country, his own library alone has been within his reach, and it is feared that some books which ought to have been read have been unnoticed.

He wishes also to say that the German language, which he once knew, had slipped from him before the study of Hahnemann's system was undertaken. Finding such good translations as those of Dr. Dudgeon and Dr. Hempel; time being very precious; and the subject large and difficult; he did not feel bound to recover the lost language, and was glad to be spared the toil. It is to be hoped that the time and labour have been spent in a manner more useful to medicine; though, doubtless, it would have been more creditable to himself to have re-learned the language and read the originals.

The Essays have been preserved in their original condition. If they have any historical value, as containing the successive steps of the investigation, this would have been lost by alterations. On the other hand, having been thus preserved, they are exposed to the charge of containing many repetitions. But repetitions of principles are needful. They must be repeated in order that they may be made more easily intelligible.

The subject which has been left most unfinished is the consideration of the question of the dose.

All authors have critics, and all have their thoughts about them, though these are not always expressed; those of the present writer may be put into few words :—good critics have pleasure in pointing out the favourable parts of a book, while bad ones find or invent faults; the former are to be thanked, the latter may be requested to go and do better.

HORTON HOUSE, RUGBY:
May 20, 1874.

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ESSAY I.

WHAT IS HOMŒOPATHY?

"The philosopher [and the physician] should be a man willing to listen to every suggestion, but determined to judge for himself. He should not be biassed by appearances, have no favourite hypothesis, be of no school, and in doctrine have no master. He should not be a respecter of persons but of things. Truth should be his primary object. If to these qualities be added industry, he may indeed hope to walk within the veil of the temple of Nature."

MICHAEL FARADAY.

ESSAY I.[1]

WHAT IS HOMŒOPATHY?

> "True philosophers, who are only eager for truth and knowledge, never regard themselves as already so thoroughly informed, but that they welcome further information from whomsoever and from whencesoever it may come; nor are they so narrow-minded as to imagine that any of the arts or sciences, transmitted to us by the ancients, are in such a state of forwardness and completeness, that nothing is left for the ingenuity and industry of others."
>
> WILLIAM HARVEY.

AMONG the many important topics of the day, none having reference to this life only can possess higher claims to calm inquiry and earnest attention than the various resources which are available to mankind when suffering from bodily disease.

In the present age of discovery and invention, it would be remarkable if, while every branch of science and art is rapidly improving, the resources of medicine remained stationary. Would it not be surprising if, while all around are sailing forward, we saw the physician alone becalmed? But this has not happened; the onward wave has reached the healer's barque, the breeze has caught his sail, and he also is gallantly in motion upon the mighty waters of natural science.

There are, indeed, many who would stoutly stand upon the "old paths;" but here we have no inspired prophets and apostles, as happily we have in an affair of higher moment, upon whom to rest as upon a firm foundation. The opinions of mere men, however venerable by their antiquity, are like shifting sands;—they are not stable because they are not true. The intelligent and thinking people of the present times do not, in physical science, remain content to echo the sentiments of a master. Nature's laws and nature's facts alone are able to stand the rigid scrutiny to which all teaching is now unreservedly exposed.

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[1] This Essay was first published in 1852.

Some men's minds, under such an apparently unsettled and disorderly state of things, become sceptical and faithless. This arises from indolence; they will not give themselves the trouble to investigate, and thus they throw truth and falsehood overboard together, and vainly try to rest upon a negative. But, to the more active and industrious mind, the same condition is stimulative to exertion. Truth is sought after with earnestness, and, when found, is embraced with satisfaction and delight.

Among the medical inquiries of the day, Homœopathy, in the judgment of many, is the most important which has yet appeared, while it is condemned by the voices of many more as a dishonest fallacy. It is proposed to consider, in a few words, what homœopathy is not, and what it really is.

1. Homœopathy *is not a novelty*. In a Sanscrit poem called Sringara Tilaka, written by Kalidasa, who was one of the ornaments (or *gems*, as they were commonly called) of the court of Vikramaditya, king of Ujayin, whose reign, used as a chronological epoch by the Hindus, is placed about fifty-six years before the Christian era, the following line occurs, which shows that the fact involving the principle of homœopathy, had, in the East, even at that early period of time, passed into a proverb:—

"श्रूयते हि पुरा लोके विषस्य विषमौषधं"

"It has been heard of old time in the world that poison is the remedy for poison."

Hahnemann further observes that "later physicians have also felt and expressed the truth of the homœopathic method of cure." As for instance, Boulduc, Detharding, Bertholon, Thoury, Von Störck, and especially Stahl,—all these during the eighteenth century. But their observations were slightly made, and produced no permanent impression either on their own minds or on those of others. We are indebted to Hahnemann for a fuller discovery and development of the law, and for forcing it with sufficient perseverance upon the attention of the world.

It has been asked if Shakspeare makes any allusion to this method of cure. We have one in the following passage:—

> "In poison there is physick ———————"
> HENRY IV, Part II, Act i, Scene 1.

2. Homœopathy *is not quackery*. The essence of quackery is secrecy. The individual practising it pretends to the possession of some valuable remedy—a nostrum—which he sells for his own private gain, but which he will not disclose for the public good. Homœopathy has no secrets—no nostrum—it courts inquiry, it entreats medical men to investigate it. This is not quackery.

Homœopathy, in its present form, was discovered by a regular physician (Hahnemann), and was first published in the leading medical journal of Europe (Hufeland's), in 1796. It has been studied and adopted by several thousands of regularly educated and qualified practitioners, some of them professors in universities, and others leading men in their profession, who urgently call upon their colleagues to follow their example. They offer every facility in the way of instruction, by hospitals and dispensaries, and by private information which it is in their power to give. This is not quackery.

Homœopathy is no field for the St. John Longs and Morisons—the patent-medicine vendors. The unsettled, unsatisfactory, and unsuccessful course of the educated physician leads his patients to try quacks and quackery, whose means, it must be acknowledged, are very similar to his own, and sometimes more successful. Nothing would so effectually drive away all real charlatanry as the adoption, by the profession, of a recognised law of healing, and the carrying this out fully and fairly, so as to derive from it all the success which can in reason be looked for.

3. Homœopathy *is not globulism.* Globules are a particular mode of preparing medicinal doses, invented by Hahnemann, and recommended by him; but homœopathy is in no way dependent upon their reception for its successful practice. The association is accidental, and is simply a matter of convenience.

4. Homœopathy *is not an uncertainty.* It is surprising how the opponents of homœopathy, and even some of its friends, bewilder both themselves and others when they endeavour to explain what homœopathy is. The impression is thus produced that the new doctrine is nothing more than a wild theory, very vague, and very worthless. The most common mistake is thus stated: "A medicine, or a poison, which will produce a disease, will cure it." "If I am fatigued with a long walk I must take a short one!" This is *the same curing the same*—not *like curing like.* Similis is not idem. The remark about being fatigued was made by an eminent Greek scholar, but Greek scholars ought not to fall into such an error as to confound ὁμός with ὅμοιος; they may be reminded of the controversy between Athanasius and Arius, in the fourth century, and the difference between ὁμοούσιος and ὁμοιούσιος.

Let me try to set this matter in a clear light. "Give," says Hippocrates, in a particular case of insanity, "a draught from the root of mandrake, in a smaller dose than will induce mania," that is, if taken in health. In both cases there is an alienation of mind—the symptoms are similar; but the causes are different, and the cases are not identical.

The preparation of mercury called corrosive sublimate is one of the most violent poisons; two or three grains are sufficient to destroy life, as has happened when it has been given by mistake for calomel. The symptoms it produces are well known to be those of inflammation of the stomach and bowels, accompanied by diarrhœa with bloody stools; in the words of Taylor,[1] symptoms "like those of dysentery, tenesmus and mucous discharges mixed with blood being very frequently observed." In March, 1852, I saw J. C., a tall spare man, about thirty, suffering from a severe attack of dysentery; his countenance much distressed, a great many stools for three days consisting of blood and jelly-like mucus, with considerable pain in the abdomen increased by pressure, and a quick pulse. I dissolved one grain of corrosive sublimate in half an ounce of water, put four drops of this solution into two drachms of dilute alcohol, and gave him six drops of this tincture in four ounces of water, directing him to take a dessert-spoonful every three hours till the symptoms abated. He immediately improved, had no other treatment, and in three days he was quite well. Here the symptoms of the dysentery were like those which this preparation of mercury produces, but they had not been occasioned by corrosive sublimate, *therefore* it was a proper remedy on the principle of similia,—that like is to be treated with like.

Every one knows that the Spanish fly, cantharides, even when only applied externally in the form of a blister, very often acts injuriously upon the bladder, causing strangury and other painful symptoms connected with that organ. I hold in my hand a little book with the following title—"Tutus cantharidum in medicinâ usus internus, per Joannem Groenevelt, M.D., e coll. med. Lond., editio secunda, 1703." This book is full of interesting cases of strangury and other affections of the bladder very successfully treated by the internal use of cantharides. Here is a special case of homœopathy—of like curing like,—or, in the words of the old translator of Hippocrates already quoted, "Velut urinæ stillicidium idem facit *si non sit*, et *si sit* idem sedat"—"the drug produces the complaint *if not there;* but, *if it be there* (arising from another cause), it cures it." For this method of treatment, the author tells us in his preface *he was committed to Newgate*, on the warrant of the president of his own college—the royal college of physicians of London—"Chartâ quâdam manibus propriis signatâ, sigilloque firmatâ me sceleratorum carceri (*Newgate* vulgo dicto) malæ praxeos reum asseverantes, tradiderunt!" This happened in 1694—just a century before Hahnemann. It is worthy of remark, before quitting Dr. Greenfield, that the dose of cantharides which he gave was such as to oblige him to give camphor along with it, as an antidote to correct the otherwise aggravating effect of the fly. The present method of reducing the dose, which we owe to Hahnemann, enables us to cure similar cases of diseased bladder without the addition of the camphor, and without fear of aggravating the symptoms.

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[1] Medical Jurisprudence. Article, Corr. Subl.

One instance more. Belladonna, when swallowed as a poison, produces a scarlet rash, a sore throat, fever, headache, &c., all which symptoms appear in scarlet fever. Belladonna, as was first discovered by Hahnemann, not only generally cures, but often preserves from scarlet fever. *Belladonna does not produce or cause scarlet fever, but it does produce symptoms similar to those of scarlet fever.* Whoever will carefully study these examples will no longer charge the doctrine of homœopathy with vagueness and uncertainty.

5. Homœopathy *is not an infinitesimal dose.* This is another popular mistake, diligently, though perhaps ignorantly, fostered by the opponents of homœopathy. Like curing like—similia similibus curantur—says nothing about the dose. All that is essential to the carrying out of this principle—all that the general fact or law of nature requires for its fulfilment—is announced by Hippocrates; give the poison in a *smaller*

dose as a remedy in the natural disease, than would be sufficient to produce similar symptoms in a healthy person. A smaller dose—how much smaller is a matter of experience. Twenty grains of ipecacuanha will make a healthy person sick, and the twentieth part of a grain may be sufficient to cure a similar sickness. Twenty grains of rhubarb will act as a purgative, and one grain may cure a similar diarrhœa. Two grains of arsenic or corrosive sublimate may bring on fatal inflammation of the stomach or bowels, and the thousandth or the ten-thousandth part of a grain may be sufficient to cure—not the inflammation brought on by itself—but a similar inflammation arising from other causes.

It should not be forgotten that homœopathy, as a principle, was discovered by experiments made with appreciable doses, and a man may be a true homœopathist though he never prescribe any other. The nature and effect of the so-called infinitesimal doses are separate questions; those who make use of them find that they are (from whatever cause) efficacious and generally sufficient, but no man is pledged to use them exclusively, though many do, being satisfied from their experience that they are the safest and best mode of administering medicine. No one will deny that they are the pleasantest, and, if success follow their use, why should they not be used? Because, it is said, they appear absurd, and their action cannot be explained. But if a fraction of a grain will cure a disease, is it not more absurd to give a larger and, perhaps, injurious dose? And who can explain the mode of action of the large dose any more than that of the small one? If diseases disappear of themselves under suitable diet and regimen, or if the small doses afford all the aid required, why should patients be "encumbered with assistance," or their recovery be retarded or jeopardised by the unwieldly and often hurtful interference of large doses of poisonous drugs? Why has it so often been said that "the remedy proved worse than the disease"?

6. Homœopathy *is not a single remedy.* It does not propose, as hydropathy does, to treat all diseases with one panacea. It is not a remedy, but a method; it is not a box of tiny preparations, but a rule by which to use all medicinal substances. The homœopathist says, with the celebrated Boerhaave, "Nullum ego cognosco remedium, nisi quod *tempestivo usu* fiat tale,"—"I know of no remedy except that which becomes so by opportune application."

7. Homœopathy *is not magic.* It does not pretend to charm away disease. It is not mysterious; it does not work through the imagination, nor by producing moral impressions on its patients. It is not a popular delusion, as its opponents think; nor has it any relations with the moon, as some of its adherents imagine. Homœopathy has no connection with mesmerism, though it is true that Hahnemann himself and some of his followers have associated mesmerism and homœopathy in their practice. This proceeding is, I think, greatly to be regretted, for it has brought upon homœopathy a needless addition of opprobrium and dislike. If homœopathy be a true branch of science, it has a claim to be investigated by itself; and if it possess the merits which its advocates contend for, it is able to stand alone, and while it is on its trial it should be permitted to do so.

8. Homœopathy *is not a dishonest fallacy.* Neither are those who practise according to its teaching deceivers. Were it a fraud, it is not likely to have had the steady success which its opponents are constrained to acknowledge attends its practice. A short time would be sufficient to expose its untruthfulness. An ingenious and plausible advocate might make an *hypothesis* popular, but he never could obtain extensive belief in the statement of a supposed *fact* which every day's observation proved to be untrue. As to abusive words, they are not arguments, and must remain unanswered, except by the observation that such language generally betrays a weak cause on the side of those who use it. Men conscious of integrity can

afford, under such circumstances, to remain silent. They feel no inclination to return railing for railing; what they wish is, that their medical brethren would study their science, and, instead of abusing them, help to improve it, for the benefit of their own and future generations. When any one speaks disrespectfully of things of which he is ignorant, he may be very fitly rebuked, as Dr. Halley was by Sir Isaac Newton, "*I have studied these things; you have not.*"

9. *Homœopathy is a general fact,—a principle or law of nature.* All nature is exquisitely arranged and governed by perfect laws, the result of infinite wisdom and almighty power. The discovery of these general facts has marked epochs in the annals of mankind. What consequences have followed the discovery that a magnetized steel bar, when free to move horizontally, always turns one of its extremities towards the north pole of the earth, as is seen in the mariner's compass? And what will follow from the further fact, so recently discovery by Œersted, that, when this bar is surrounded by a current of electricity, its direction is altered at will to the right hand or to the left, as is seen in the electric telegraph? Who attempts to *explain* or *ridicule* these things? They are facts. Newton discovered that the force of gravity is in direct proportion to the mass of matter in the attracting bodies, and in inverse proportion to the square of their distances. Doubtless many other proportions are *possible*, but this is the one fixed upon by the wisdom of the great God. Dalton discovered that the elements of matter, when combining chemically with each other, always do so in certain fixed proportions;—for example, oxygen combines with hydrogen in the proportion of eight parts by weight to one; this is an interesting particular fact, but it becomes much more important when it is known to be a general fact, that oxygen will combine in the same proportion of eight parts by weight with a fixed weight of every other element; as with six of carbon, sixteen of sulphur, fifteen of phosphorus, thirty-five of chlorine, twenty-

seven of iron, thirty-one of copper, &c., and these likewise with each other in the same proportions in which they combine with oxygen; as thirty-five of chlorine with one of hydrogen, twenty-seven of iron, thirty-one of copper, &c. &c. Here is a law of nature, absolutely unalterable by us, and yet it is most evident that these proportions of combinations *might* have been very different;—they are so arranged by infinite wisdom—we cannot explain why—*shall we ridicule the arrangement?* So we can imagine many laws of healing, but our business is to discover, if possible, the actual one. The evidence in favour of "similia similibus curantur" is already great, and is increasing daily. It claims to be received as a *general fact* unless it can be set aside by good *evidence* to the contrary. Let it be borne in mind that ordinary medicine is without a rule, and even, as contended for by the present president of the royal college of physicians,[1] "incapable" of receiving one. It is, consequently, in the condition of ships before the discovery of the mariner's compass. If then a rule be found, how great must be its value! It is not possible to overrate the value of a well-founded principle in any branch of science, for "principles built upon the unerring foundation of observations and experiments must necessarily stand good till the dissolution of nature itself."[2]

10. Homœopathy *is a practical fact.* It is not a speculative theory to be reasoned upon in the closet, but a fact to be observed at the bedside; it is no metaphysical subject, to be logically shown by *à priori* reasoning to be absurd; it is no piece of presumption and impudence to be put down "by authority," as the council of our royal college of surgeons happily acknowledges; it is a fact to be examined, like the statement of any other fact, *upon evidence.* We are not called upon to sit down and imagine its possibility, or its impossibility, but we are urgently pressed to observe

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[1] Dr. Paris.

[2] Emerson, in Newton's Principia, vol. iii, p. 86.

whether it be true or not. Hundreds of credible witnesses tell us that curable diseases are, for the most part, readily cured by the new method. This is asserted as a fact. Is it true? This is the question. Try the medicines. Why should you not? The interests of humanity require it. If they succeed, it is a great blessing; if they fail, publish the failures. This is the only fair and honest way to oppose homœopathy, and in no other way is it likely to be opposed with success.

11. Homœopathy *stands upon its comparative merits.* This must be the test of all methods of treating disease. There is no absolute preservation from suffering in a sinful world, nor any deliverance from death. "There is no discharge in that war." And as all generations have died under the old method, so, should the new one prevail, all generations will continue to die under it. This consideration should render disputants on both sides sober-minded. Medical men are engaged in an unequal contest; the great enemy will always conquer at last; but the question is a fair and a rational one, from which class of means do we actually obtain the greatest amount of relief from bodily suffering, and by which is the apparent approach of death most frequently warded off? This reduces the whole matter to what would seem to be its proper shape—a practical question—What will do me most good when I am ill?

12. *The old method is unsatisfactory.* This is admitted by almost all medical authorities. It is not necessary to bring forward quotations in support of this statement; they might be had in abundance, but the fact is so notorious that the differing of doctors has become a proverb; in short, there is no opposition of sentiment, or of practice, too great not to be frequently met with. I well remember the reply made to me by an eminent and old practitioner when I was a pupil, who saw the distress I was in on perceiving the uncertain condition of medical knowledge,—"If there be nothing true in medicine, there is in surgery, so you must give

your mind to *that!*" The old medicine is in the condition which astronomy was in before Newton, and in a worse condition than chemistry was in before Dalton; many valuable isolated facts known, but no golden thread, no law of nature discovered, by which a host of conflicting conjectures might be dissipated, and facts reduced to an intelligible order.

13. Homœopathy *is simple and intelligible.* However absurd the rule may appear to some, it is practically a plain one, and becomes, to those who follow it, more easy and more satisfactory every day. It is not pretended that it can be carried out without serious labour. The law of gravity is abundantly plain and simple; but there are plenty of difficulties, notwithstanding, in working out the inequalities of the moon's motions.

14. Homœopathy *gains by comparison.* It is more successful than the old system. This comparison can be instituted in two ways—by the statistics of public institutions, and by those converts from the old practice who have tried it long enough to be able to compare with each other the results, in their own hands, of the two methods. As an illustration of the former mode of comparison, the following abstract, drawn from Dr. Routh's statistics (in the 'Fallacies of Homœopathy'), may be given:—

	HOMŒOPATHIC TREATMENT.	ALLOPATHIC TREATMENT.
	Deaths per cent.	Deaths per cent.
Pneumonia	5·7	24
Pleuritis	3	13
Peritonitis	4	13
Dysentery	3	22
All diseases	4	10·5

When, in 1836, the Asiatic cholera attacked, as an awful scourge, the city of Vienna, all the hospitals were fitted up to receive cases indiscriminately, as they occurred; one was a homœopathic hospital, but under the inspection of two allopathic physicians. The authorized report, when the epidemic had done its work of death, was this :—

Mortality in the Hom. Hospital,	33	per cent.
Mortality in the Allo. Hospitals,	66	„

Two-thirds recovered in the one, and two-thirds died in the other.[1]

When, in 1849, Edinburgh was visited with this pestilence there was a general mortality of two-thirds of those attacked, and the proportion of recoveries under homœopathic treatment was three-fourths. The entire returns were :—

Cases.	Cured.	Died.
817	271	546

Those treated homœopathically :

Cases.	Cured.	Died.
236	179	57

Mortality under hom. treatment.	General mortality.
25 per cent.	66 per cent.

When, in the same year, Liverpool was attacked, 5,098 deaths took place between May 20th and October 6th :—

Mortality under hom. treatment.	General mortality.
25 per cent.	46 per cent.

It will be understood that, if the cases treated by the new method had been deducted from the entire cases in Edinburgh and Liverpool, the per-centage of deaths under allopathy would have been greater than that stated as the general mortality.

When, in 1853, the cholera broke out with alarming suddenness, and with more than its usual virulence, in Newcastle the mortality during September and the early part of October reached 1500. Dr. Hayle has kindly informed me that he and Mr. Elliot treated, during these few weeks, eighty-one cases of cholera, and lost sixteen, being a mortality of twenty per cent., or one fifth, while it is believed that the general mortality considerably exceeded fifty per cent., or more than one half of the persons attacked. A large number of deaths took place from diarrhœa. Dr. Hayle and Mr. Elliot treated 280 cases of diarrhœa without one death. The royal college of physicians has repeatedly stated that it is in *this* stage of cholera that treatment is successful, and that if it be neglected the case often terminates fatally. *If these* 280 *cases had no efficient treatment, how is it that they all recovered?*

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[1] See the well-known 'Austria and its Institutions,' by Mr. W. R. (now Sir William) Wilde, M.R.I.A.

The second mode of comparison rests in the bosom of each private practitioner. Thus much, however, may be stated, so far as I am at present informed, every practitioner who has, with sufficient care and perseverance, studied homœopathy, has embraced it; and I have not yet heard of one who has deserted its ranks because he has been disappointed as to the efficacy and superiority of this mode of treatment. For myself, I may be permitted to say that, having practised the old method for many years with success, and having now devoted myself for some time to the new mode, while I at once acknowledge that the study is laborious and not without its difficulties, I am persuaded that it is a change for the better, and I venture to engage that if my medical brethren will try such plants as the following, prepared as homœopathists use them, in the cases for which they are indicated by the law of similia, they will be greatly surprised and gratified by their beneficial effects:—

Aconitum Napellus,
Bryonia Alba,
Matricaria Chamomilla,
Ipecacuanha,
Atropa Belladonna,
Arnica Montana,
Anemone Pulsatilla,
Nux Vomica, &c. &c.

15. Homœopathy *is medical treatment.* It is not the "do-nothing system" which it is represented to be by opponents who thus only betray their ignorance. When fever and dysentery were desolating many parts

of Ireland, in 1847, one of the places which suffered most was Bantry, near Skibbereen, in the county of Cork. During ten weeks one hundred and ninety-two cases were treated homœopathically by Mr. Kidd, at their own homes, amid all the wretchedness of famine; the mortality from fever was less than two per cent., and from dysentery fourteen per cent. During the same period many were treated on the old method in Bantry union hospital, with the advantages of proper ventilation, attendance, nourishment, &c., and from the report of Dr. Abraham Tuckey, the physician, the mortality from fever was more than thirteen per cent. and from dysentery thirty-six per cent.

At the same time another fever hospital was opened for similar cases, occurring among the emigrants from Ireland to this country, in which the medical man tells us he abstained from all interference, and remained passively watching the cases, ordering them free ventilation, cleanliness, and confinement to bed; water, or milk and water, being given as drinks. He congratulates himself upon the success attendant upon thus allowing the cases to take their natural course, undisturbed by medicine; the deaths from fever in this hospital were ten per cent. We have here, therefore, an opportunity of comparing together the results of the three methods; the ordinary system of medicine, no medicine at all, and the homœopathic medicine. The deaths from fever are thus reported:—under ordinary medicine, above thirteen per cent.; under no medicine at all, ten per cent.; under homœopathic medicine, less than two per cent.; a sufficient proof that *that* is doing something and gaining by it; while by the same comparison, giving large doses of medicines is doing something indeed, but losing by it.

16. Homœopathy *is a practical guide.* It is a rule to direct us in the use of remedies. The medical practitioner who, for years, has felt and mourned over the bewildered condition of his professional knowledge, —the contradictions of his theories, and the uncertainty of his facts, is the only person who can fully appreciate

and to restore appetite; at the following visit, the appetite is better, but the acid has irritated the mucous membrane of the bowels, and has produced diarrhœa; to check this, astringents must be given, which have occasioned, by the time of the next visit, a return or aggravation of the cough, and thus the round has to be recommenced. Who does not see that there is room for improvement in such a system? But the greatest of all difficulties of the old mode of treatment is this, to decide the point whether depletion and lowering measures, antiphlogistics, as they are called, are indicated, or the opposite remedies, stimulants and tonics. The most eminent and experienced practitioners not unfrequently differ in their opinions upon this important point, even when, humanly speaking, the life of the patient hangs upon the decision. Now this acknowledged and grave difficulty is greatly mitigated, if not entirely removed, under the new method; the group of symptoms has to be taken, and a similar group found, belonging to any remedy; *that* is the remedy most likely to be useful, by whatever name it has been usual to designate it.

19. Homœopathy *economises the vital powers.* It does not, like bleeding, and purging, and salivating, and sweating, draw largely upon the remaining strength of the patient, already perhaps greatly reduced by his sufferings. Homœopathy lets well alone. Its medicines act only upon the diseased organ. If the head be sick, it does not add to this sickness, a complaint in the intestines, which strong purgatives must do; if the lungs be inflamed, it does not also bring on an inflammation of the skin, which a blister does. The beneficial consequence of this method is conspicuous in the speedy return of the patient to his accustomed health and occupation. When the acute disease is removed, which it often is in an unusually short space of time, the patient is well; he has no tedious convalescence, requiring wine and bark.

20. Homœopathy *is gentle and agreeable.* If the new mode of treatment be found, on trial, to be *only*

bined together, when given to a patient? In the days of Sydenham, the father of English medicine, sixty or eighty medicines were mixed together in the favourite prescriptions; this number has been greatly reduced since the time of Sydenham, but, so long as two medicines are given together, it is impossible to ascertain with accuracy the effects of either.

22. The homœopathic physician *learns the properties of drugs by experiments upon himself, not upon his patients.* That the contrary has been the plan hitherto adopted is known to all. How many poor people have been deterred from availing themselves of the aid of our hospitals, lest they should have "experiences" tried upon them!

It is evident that the properties of medical substances must be ascertained by some kind of experiment; the question in dispute is this, is it best to try these experiments upon sick persons, or upon healthy ones? Shall the physician get his knowledge by experimenting *upon his patients, or upon himself?* The practitioners of the old school pursue the former method; those of the new one the latter.

Now it is certain that the only way of learning the real effects of drugs upon man's health is to administer them experimentally to *healthy* persons. None have thought of this method, so far as appears, except the illustrious Haller and Hahnemann;—none have attempted to carry it out except Hahnemann and his disciples.

23. Homœopathy *is applicable to acute, as well as to chronic diseases.* When the discovery was first announced to the world by Hahnemann, he did not carry its application further than to chronic diseases,—to ailments continuing for a long time. And the impression is still general that such treatment may possibly avail where there is abundance of *time,* but what is to be done in cases of emergency? Acute disease with immediate danger,—how can you trust to homœopathy *then?* The answer to this grave question, which manifold experience gives,—as indeed may be partly

of a man entitled, for his truthfulness and genius, to the highest admiration. The difficulty, though not perhaps always so frankly acknowledged, has been always felt until now;—it is *not* a difficulty in homœopathy.

25. Homœopathy *carries into detail what all medicine is in the general.* Medicines are not food, but poisons;--not materials which of themselves can preserve or produce health. They are all naturally inimical to the human body; but, when the body is in a state of disease, they are found, as a matter of experience, sometimes to assist in restoring it to health.

Medicine *in the general* is poison to the healthy frame of man, and a remedy to that frame when sick; this is admitted by all, and this is homœopathy in the general; why not then have homœopathy in detail? Why not first ascertain what symptoms each poison produces, when taken in health? and why not give it as a remedy for similar symptoms in natural disease? Medical men have been experimenting in the treatment of diseases for many centuries, why not try *this* experiment? Our opponents admit, in general, what they ridicule, and oppose, when carried out, in particulars.

26. Finally, homœopathy *relates only to the administration of remedies,* and detracts nothing from the value of the collateral branches of the science of medicine. It leaves anatomy, physiology, chemistry, &c., unaffected. The homœopathic physician ought to be as accomplished in these, and other departments of knowledge, as his fellow practitioner of the old school; and he is more likely than the other to turn all such knowledge to the beneficial account of his patient.

It may, perhaps, be objected that this Essay deals more in assertion than in proof; if so, it is replied that the proofs will be found in the Essays which follow. It was necessary to ascertain first what homœopathy professes to be, and to give an exhibition in outline of its leading features. Some of these features might have been sketched with more elaborate detail, but it is hoped they have been delineated so plainly that the points contended for by homœopathists cannot remain doubtful.

The proofs upon which these statements rest have been thoughtfully and carefully examined, and will be found in the subsequent Essays distinctly explained. Opponents should meet them with facts and arguments, not with ridicule and abuse, for certainly any proposal, such as is explained in the foregoing pages, even if there be but a chance that it may be instrumental in diminishing the sufferings of our fellow men, deserves to be received with something more decorous than ridicule. "Those who reject it, or who cast it out of the way as unworthy of inquiry, must do so on their own responsibility." If they decline "to search all things that may present even the shadow of a chance of bringing them more nearly acquainted with laws which the Creator has instituted for the government of the world, and especially with those upon which He has caused the preservation of health to depend, let them recognize that it will be vain for them, in any after hour of hopelessness, when it may be too late to avert their own premature death, or the death of a relative or friend, to rely on the hackneyed consolation, that the calamity is to be regarded as a new instance of the inscrutable ways of Providence, and not as the penalty of having wilfully blinded themselves to any light beneficently set before them, the reception of which might have ensured their preservation."[1]

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[1] 'Truths and their reception,' by M. B. Sampson, p. 97. London, 1849.

ESSAY II.

THE CONTROVERSY ON HOMŒOPATHY.

"The mind which is searching for truth ought to remain in a state of suspense, until superior evidence on one side or the other incline the balance of the judgment, and determine the probability or certainty to the one side."

ISAAC WATTS.

ESSAY II.[1]

THE CONTROVERSY ON HOMŒOPATHY.

"Read, not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider."

LORD BACON.

THE homœopathists are censured by their medical brethren of the old school for bringing professional discussions before the tribunal of the public, because, it is said, the public are incompetent judges of such matters. Some of their own party are disposed to join in this censure, and all are ready to admit that, in the present condition of medicine, an appeal to the public is in itself an evil.

But it must be observed that this evil did not originate with the homœopathists. Hahnemann did not take this step; he published his first Essay in Hufeland's journal, a periodical strictly professional, and of the highest character and standing in the profession. The step was taken by the physicians of the old school, and at the very commencement of the discussion; for, instead of meeting Hahnemann, on their common ground, with arguments and facts wherewith to refute his opinions, they appealed to the public authorities, and by the aid of this professional force drove him from city to city, and from village to village. And, moreover, this appeal to the public by the allopathic portion of the profession has been continued to the present hour, and is still continued. Occasions are eagerly sought on which to call for the inquest of the coroner, in the hope of committing the homœopathists to prison, a hope which has more than once been realized; and the resolutions so frequently passed at public meetings of medical men, and published in the newspapers, declaring that they will not recognize, and cannot hold communion with homœopathic practitioners, whom they stigmatise as quacks, knaves and fools, are an appeal to the public to aid them in their endeavours to suppress the unwelcome novelty.

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[1] First published in 1853.

If, then, there be folly in bringing this matter before the public, the folly rests with the old school, not with the new; it is plain that the homœopathists have no alternative; the affair is already before the public; it has been carried there by their opponents; they are compelled, however reluctantly, to plead the cause of homœopathy before this tribunal. It is true indeed that they do this, without fear, though reluctantly, not doubting that, when magistrates are better acquainted with its truth and value, they will no longer expel it from their borders or imprison it in their gaols; nor that the public, when well informed upon the question, will fail to come to a satisfactory and wise conclusion.

Another justification of the course pursued by the homœopathists arises out of the fact that every allopathic medical journal is closed to any paper containing an argument or a fact in favour of homœopathy.[1] Many medical men are not only deaf to their entreaties to investigate the new science, but, as is most evident, resolve, if possible, to crush it. They have imbibed a settled hatred of the whole subject and will never study it *unless compelled by their patients to do so.*

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[1] I deeply regret to add that this course is still pursued. One of the latest attempts made to obtain leave to be heard in an allopathic journal is a remarkable illustration of this. The number of the *Practitioner* for August 1873, (page 140) contains a paragraph on the chemical analysis of the pilules made by homœopathic druggists. It is said that these afford "no traces of the alkaloids, even by the finest chemical tests." The editor (Dr. Anstie) makes the customary remarks upon this, and concludes with these words:—"We should like to know how Dr. Sharp explains the fact?"

It may be observed further, that, though this public discussion of medical matters be an evil, good will come out of it. The veil of mystery which has hitherto shrouded medicine will be removed; the elements of the science will be expressed in plain and intelligible terms; unprofessional men will inform themselves more fully on these subjects than they have been wont to do; and the result will be, not that every man will be his own physician,—for that is neither desirable nor possible,—but that it will be in the power of every one to possess such knowledge, and to have such an intelligent appreciation of the subject, as will enable him to choose his medical advisers for better reasons than those by which he has hitherto been guided.

And again it may be remarked that, if medicine be really a science, there is no reason why every educated person may not understand its principles, as he ought

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To this challenge the following letter was sent, but it was refused admission:—

"Dear Sir,——The reply to your question is this:—the action of drugs on the *living* body, whether in health or in disease, is not a chemical question at all. It belongs to therapeutics, a branch of knowledge separated by a very distinct boundary from chemistry.

"When chemists can tell us the chemical properties of the contagion of scarlet fever, or even those of the poisonous ingredient in the venom of serpents, we shall be much obliged to them, and they will be in a condition to undertake the analysis of the dilutions of drugs with more hope of success. But even then these analyses will not explain the action of drugs on the *living* body. As well might a carpenter's rule be taken to measure the specific gravity of a saline solution.

"Allow me to notice one good result of the analyses you have published. They clear the druggists from a crime of which they have been accused, namely, that of putting much more of the drug into their pilules, &c., than they profess to contain.

"Believe me, faithfully yours, WILLIAM SHARP."

to know the principles of chemistry, of astronomy, of agriculture, of mechanics, or of any other branch of natural knowledge.

Entertaining these views, I conceive myself justified in laying the whole case of homœopathy, without reserve, *before the profession, if they will look at it*, and, if they will not, before the public, the interests of the latter being even more concerned in it than those of the former. It seems to me desirable that the matter should be clearly explained in the simplest manner possible. Such is the object of these Essays. In this I purpose to point out the present aspect of what may be called the external features of the controversy. This will be accomplished by the discussion of the four following arguments—

I. From *authority*.	III. From the *majority*.
II. From *antiquity*.	IV. From *improbability*.

I. The argument from *authority*. This argument on the side of allopathy may be thus stated :—various universities, as the four in Scotland; several royal colleges, as those of the physicians of London and of Edinburgh; and many other public bodies have pronounced their condemnation of homœopathy in the strongest manner. They have rejected students and applicants for their degrees and diplomas, and have passed resolutions forbidding their members to hold any professional intercourse with those who adopt the new system of medicine.

I will give a few illustrations of these proceedings. The following is a letter written by the president of the royal college of physicians of London, in reply to an application for its licence, made by a homœopathic practitioner :—

> "Sir,—The foundation of the royal college of physicians was for the purpose of guaranteeing to the public skilful and safe practitioners.
>
> "The college of physicians regards the so-called homœopathists as neither skilful nor safe.
>
> "Therefore, the college cannot, without betraying a sacred

trust, give its licence to persons whom they regard as wholly unworthy their confidence, and with whom it is not possible they can hold any communion.

"I remain, &c.,
"JOHN AYRTON PARIS."

I give next the declaration of the court of examiners of the society of apothecaries in London, the only public body authorised by act of parliament to give a legal qualification to practise medicine in England,[1] namely, that—

"In their capacity of examiners they will refuse their certificate to any candidate who professes, during his examination, to found his practice on what are called homœopathic principles."

As this declaration was made about two years ago, I thought it well to learn whether the society of apothecaries still adheres to its resolution. This I have ascertained by the following reply to a letter of inquiry addressed to their secretary, which I received on the 28th of October, 1853:—

"Sir,—The court of examiners still refuses to admit any person who calls himself a homœopathist.

"I am, Sir, yours, &c.,
"H. BLATCH, Secretary."

An application made by a candidate to the university of St. Andrew's Scotland, was, I understand, replied to by the following letter:—

"Sir,—In answering the papers upon the practice of medicine, every candidate is required to specify the mode of treatment he is himself in the habit of adopting, and the average doses that should be prescribed. This being the case, no honest homœopathist would seek to obtain a degree in this university."

The reply to a similar application made to Trinity College, Dublin, was as follows:—

"Sir,—In answer to your letter, I beg to say that I should not feel myself justified in presenting for his degree any person who adopted errors such as are introduced in the teachings of Hahnemann. "I remain, your obedient servant,

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[1] "The Medical Act" of 1858 has made a new arrangement for the qualification of medical practitioners in England.

"W. STOKES."

Other colleges have expressed themselves in a similar manner, and thus homœopathy is put down with a high hand by the medical authorities of the United Kingdom; and in this they are only following the course pursued from the beginning by the similar authorities of Germany. It is well known that Hahnemann was expelled from Leipsic, and from several other places, on attempting to practise after his newly-discovered method. This opposition still survives, for, only a few months ago, an able practitioner, Dr. Kallenbach, who had been invited to Frankfort-on-the Maine by a number of distinguished citizens, was summarily expelled by the authorities from that *free town.*

Such is the view of the argument on the side adverse to the new method;—homœopathy is denounced by authority.

The reply on this argument is as follows—It is right both to feel and to express respect for authority, and it is a duty to render it obedience when put in exercise within its lawful limits; but it is equally a duty to resist it, in a lawful manner, when it is stretched beyond those limits. The question therefore arises, Is it within the lawful power of colleges, *by a mere act of authority, without investigation*, to denounce homœopathy, which professes to be a branch of natural knowledge founded upon observed facts?

It is easy to show that the case before us is one which authority cannot deal with in this manner, and consequently that, in this summary condemnation without inquiry, the influence of power is misplaced, and its exercise an act of tyranny.

For the matters are questions of science, not of authority; they are to be answered by observation, not by command. A little consideration will make this very plain. What are the questions? Such as these—Which is the best method of learning the properties of medicinal substances? Which is the best mode of preparing the medicines, and the best quantity to give for a dose? Is it best, in treating disease, to combine several remedies together in one prescription, or to give a single remedy at a time? Is there any general principle in nature by which we can be guided in the choice of our remedies? Does the expression "similia similibus curantur,"—likes are to be treated with likes,—declare a natural fact, or is it merely a fancy of Hahnemann's? Is the new treatment, when fairly and honestly carried out, more successful than the old?

It is most obvious that these are not questions which it is fitting for authorities to decide by a mere act of power. No man is born with such intuitive wisdom and knowledge as shall render him competent to answer them *ex cathedrâ*. They can be answered only by interrogating nature itself, and the only possible way to obtain answers from nature is the way of diligent and careful observation and experiment. It is incumbent upon private individuals to pursue this method of research before they assume themselves to be in a condition to declare an opinion; how much more, then, is it the bounden duty of public bodies, intrusted with the power of giving or withholding a licence to practise, to take diligent heed to examine into these matters, before they pronounce a judgment gravely affecting, not only the profession, but the whole community?

No post of authority, nor even any amount of knowledge upon other subjects, can qualify men to answer and decide upon such questions as these, without previous investigation. The universities and colleges have not investigated experimentally these matters; they are in great ignorance respecting them; in this ignorance they have pronounced a condemnation; this condemnation, therefore, while it is an act of injustice towards men, is a harmless and insignificant proceeding towards homœopathy.

Be it observed that the objection does not lie against authorities for coming to a decision upon these matters, but *for deciding in ignorance; for pronouncing judgment without inquiry.* Such conduct cannot but be unwise and damaging to the legitimate influence of properly constituted public bodies. Suppose, for the sake of illustration, that the Royal Society were to reply to an application to be admitted a Fellow by the following letter from the noble president:—

> "Sir,—The foundation of the Royal Society was for the purpose of promoting natural knowledge.
>
> "The Royal Society regard the pretended operations of the electric telegraph as opposed to the established principles of natural knowledge.
>
> "Therefore the Royal Society cannot, without betraying a sacred trust, confer their Fellowship upon persons believing in or practising those pretended operations, since they regard such persons as wholly unworthy their confidence, and with whom it is not possible they can hold any communion.
>
> "I remain, &c.,
>
> "ROSSE."

Such is the position in which the royal college of physicians has been placed by the letter of its president, Dr. Paris.

The university of Edinburgh has still further outstretched its lawful authority. It is well known that the examining bodies of our public institutions are appointed for the purpose of ascertaining that applicants for certificates and degrees have passed through an appointed course of study, and have acquired a certain amount of knowledge, and the certificate or degree, when granted, testifies to this fact, and nothing more. But the examiners of the university of Edinburgh refused to grant this testimonial to Mr. Alfred Pope, unless he would pledge himself never to practise homœopathy, but only "that system of medicine" which he had been taught by the then professors in that university. Now even had the subject of homœopathy been investigated by the examiners, and they had come to the conclusion that, in its present aspect, it was not a desirable mode of practise, still it cannot be doubted by any one that to reject a student for refusing to pledge himself for the future, would have been an unjust and tyrannical act; for this reason, that *they could not know* what additional discoveries and improvements might be made, or what might become, even in their own judgments, the most successful method of relieving the sufferings of their fellow-creatures. How great then the injustice, both towards homœopathy and towards the student, to require such a pledge, not only without knowledge, but without inquiry!

There is another light in which this question must be viewed in order to see the fallacy of a comparison which Dr. Simpson and others are fond of drawing between medical and *clerical* students. It is well known that before admission into the ministry of the Church, a young man is expected to profess his adoption of certain articles of faith, in which he undertakes to abide, and which his teachers have also acknowledged their assent to, and undertaken to teach. They are therefore bound to reject any student who refuses to express his belief in the articles of the Church into which he aspires to enter. In the schools of medicine there are no such standards. Every teacher is at liberty to adopt and teach whatever medical doctrine and practice he thinks best; and consequently, every student has to make a similar choice for himself; and, provided he pursues the prescribed course of studies, and acquires the stipulated amount of information, he has hitherto obtained his degree, with a mind unfettered as to the mode of practice he may afterwards see fit to adopt. Viewing the matter in this light, it was an unjustifiable act on the part of the authorities to agree together to condemn a particular mode of practice, while they agree in nothing else except in their ignorance of what that mode is, and of what it can accomplish.

That the greatest differences of opinion, both in points of theory and in matters of practice, prevail even among the teachers of the same university is admitted;

but Dr. Simpson contends that they are all governed by the "standard of common sense." Does he mean by this the kind of sense which decides a question in ignorance of it? Which supposes the course of nature to be subject to human authority? Which would make a young man pledge himself never to look at a natural fact which may possibly stare him in the face all the rest of his life? And promise never to adopt a mode of treatment upon which his future professional success may possibly depend, and which *his examiners themselves are free to adopt any day they please?* Surely this is the sense shown by the Inquisition when it put Galileo into prison for discovering that the earth moves, and for asserting his belief in it; and is this what Dr. Simpson means by the standard of common sense? Paley truly observes that "one of the ends of civil government is its own preservation;" but is this the mode by which the rulers of our universities and colleges hope to preserve their lawful authority over the next generation? Is it by excluding from their body the most inquiring minds, the most ardent spirits, and forcibly ranging them in opposing ranks, that they expect to hand down unimpaired to their successors the venerable institutions of our country?[1]

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[1] It is painful to add that these reflections are still justified. In 1861 a special meeting of the royal college of surgeons in Ireland was held for the purpose of taking this subject into consideration; and the council afterwards passed the following Ordinance:—

"No fellow or licentiate of the college shall pretend or profess to cure diseases by the deception called homœopathy, or the practices called mesmerism, or by any other form of quackery. . . .

"It is also hereby ordained that no fellow or licentiate of the college shall consult with, meet, advise, direct, or assist any person engaged in such deceptions or practices, or in any system or practice considered derogatory or dishonourable to physicians or surgeons."

And in November, 1872, the president of the college, in an address given as president of the surgical society of Dublin, reproduced this Ordinance; and, in language the strongest possible, insisted upon its observance (1873).

Happily, however, for the credit of our age, the course thus pursued by many of our public bodies *has not been pursued by all.* The royal college of surgeons of London have dealt with this matter after another manner. To the applications which have been made to the council to join in putting down homœopathy, the following decisive answer has been, on each occasion returned:—

> "The council of the royal college of surgeons of England have attentively and repeatedly considered the various communications which they have received on the subject of homœopathy; and, after mature deliberation, have resolved that *it is not expedient for the college to interfere in the matter.*"

Having had the pleasure of being a member of this college for many years, I cannot but rejoice in this determination of the Council. I believe it to be the course of justice and wisdom, and venture to entertain a confident expectation that it will not be long ere the same course is adopted by the other colleges also, which, for the moment, have been led into error by their present rules. With a little time and patience a *national* reformation may take place, under the auspices of our established institutions; this will be far better than any *sectarian* one effected by a new charter.

Such is the view of the argument, from authority, on the side favourable to the new method. The condemnation of homœopathy by magistrates, universities and colleges, has been done inadvertently, is devoid of force, and not likely to be long continued; it is a condemnation pronounced without knowledge and without reason, and by an exercise of power beyond its lawful limits.

II. The argument from *antiquity*. On the side of allopathy:—the present, or, as it is often called, the established and legitimate mode of treating diseases, is the result of thousands of years of observation and experience. A succession of talented men have been engaged through many years in the cultivation of the profession of physic. They have laboured diligently, amidst toils and dangers and discouragements of no ordinary kind. There has been put in exercise a large amount of philanthropy, of devotedness, of disinterested self-denial. And this labour and devotedness, extending through successive generations, has had for its great object the discovery of the most successful method of mitigating the sufferings of mankind from disease and death. And have all this labour and exposure to danger, this philanthropy and self-denial, been in vain? It is incredible. Surely, the best results have already been arrived at; every mode of treatment must have been tried, the faulty rejected, and the best retained in the hands of the well-educated, legally qualified physician. Any upstart method of the present day must unavoidably come under the suspicion that it is one of mere pretention; that it seeks popular favour by large professions, the hollowness of which is concealed only by their novelty, and by the audacious boldness with which they are put forth; that its growth is that of the mushroom springing up and perishing with equal rapidity; its flash of light that of the meteor which is no sooner seen than it vanishes into darkness. Homœopathy thus viewed is one of the many kindred delusions which will have its brief existence, and then die away to be heard of no more.

If such be the true state of the case, it is obviously vain to expect men of standing in their profession to investigate homœopathy with care. It would be to call upon them to turn aside from their legitimate pursuits, to waste their time which might be better employed, and to draw them into a field of labour which would never be exhausted, for no sooner would they expose the false pretensions of one form of quackery than another would appear. Hence it is concluded that homœopathy must be contemned as unworthy of notice; and those who, from a weak intellect or from sordid motives, are induced to adopt the hated novelty must be repelled and degraded.

On the side of homœopathy it may be asked,—Is this the *true* view to be taken of the matter in hand?

What has been advanced relative to the meritorious efforts of the profession during many centuries is fully admitted. For this the meed of praise is offered with an ungrudging hand, the expression of thanks is tendered with a grateful heart; but the inference from these efforts, that the end has been achieved, cannot be admitted. The premises are true, but the conclusion does not follow. The imperfection, the confusion, the acknowledged absence of principle, of concord, of settledness in the actual condition of medicine, proclaim the fallacy of such a conclusion.

That there is room for improvement, therefore, cannot be denied; neither can it be doubted that an improved method is possible. It follows that the plea of waste of time against the examination of new methods must be looked upon as an excuse for indolence and indifference, and as such falls to the ground. This plea being removed, and improvement being possible, the leading members of the profession are held under obligation to give their time and attention to the investigation of new methods, and especially of one coming as homœopathy presents itself, and which is pressed upon their notice by so many voices in their own body.

It is true that many worthless things spring up and soon die away, and that there are many pretenders and much quackery in the world; but it is not true that homœopathy can be thus described. It has not sprung up with any mushroom growth, for it has been struggling to take root these fifty years; and, on the other hand, though it has been asserted, times without number, that it was dying away, by parties, doubtless, who believed that to be true which they desired to be so, yet homœopathy does *not* die away.

But it will, perhaps, be contended that homœopathy has been examined and found wanting, and Professor Andral referred to in proof. I have always entertained a high regard for Professor Andral, having known him long, and I cannot but regret, for his own sake, that he was induced to undertake such a trial of homœopathy as must be designated by every unbiassed person as having been ignorantly and disingenuously made. I need not describe it in detail,—this has been well done by Dr. Irvine;[1] but, as a trial of homœopathy it is altogether insignificant and valueless. All other trials which have been made, so far as I am acquainted with them, also prove nothing but the ignorance and the prejudice of those who have made them.

The plea that medicine has come down to us settled of old time is a false plea.

The plea that medical men cannot be expected to examine new methods is also a false plea.

The plea that an investigation of homœopathy may safely be neglected, because, like many other novelties, it will soon die away, is also a false plea.

The plea that homœopathy has already been examined by competent persons, and proved a fallacy by experimental demonstration, is also a false plea.

The plea of antiquity itself in support of the present mode of treatment is a false plea, for the present times are the ancient times and true antiquity, in matters of this kind, as has been testified often. "What, in common language," says Jeremy Bentham, "is called 'old time' ought to be called 'young or early time.' As between individual and individual living at the same time and in the same situation, he who is old possesses, as such, more experience than he who is young; as between generation and generation, the reverse of this is true, if, as in ordinary language, a preceding generation be, with reference to a succeeding generation, called old—the old or preceding generation could not have had so much experience as the succeeding. With respect to such of the materials or sources of wisdom which have come under the cognizance of their own senses, the two are on a par; with respect to such of those materials and sources of wisdom as are derived from the reports of others, the latter of the two possesses an indisputable advantage."

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[1] See 'British Journal of Homœopathy,' 1844, and Henderson's 'Homœopathy fairly Represented.' Appendix.

Lord Clarendon says, on this subject, "If wisdom and understanding be to be found with the ancient, that time is the oldest from which men appeal to the infancy of the world. . . . . The young shall have much to answer, if, when they come to be old, they do not know more and judge better than they could who were old before them."

These eminent writers only confirm what Lord Bacon had long before declared:—"The opinion which men entertain of antiquity is a very idle thing, and almost incongruous to the word; for the old age and length of days of the world should in reality be accounted antiquity, and ought to be attributed to our own times, not to the youth of the world, which it enjoyed among the ancients; for that age, though with respect to us, it be ancient and greater, yet with regard to the world it was new and less. And as we justly expect a greater knowledge of things and a riper judgment from a man of years than from a youth, on account of the greater experience, and the greater variety and number of things seen, heard, and thought of by the person in years; so might much greater matters be justly expected from the present age than from former times, as this is the more advanced age of the world, and now enriched and furnished with numberless experiments and observations."

Thus the argument from antiquity, when rightly considered, turns out to be in favour of homœopathy, as the discovery of the latest period of the world; as the result of long-continued labour, which was sure, sooner or later, to be rewarded with fruit.

The uncertain and unsatisfactory methods of healing, pursued during the early and middle ages of the world, were adopted, not because none better could be found, but because, as yet, none better had been found. The better *is* now discovered, and as well might people refuse to travel by the railway, or to receive communications through the telegraph, because they were not in use in the times of our fathers, as refuse to avail themselves of the latest improvements in the treatment of their maladies.

III. The argument from the *majority*. In support of allopathy it is urged that homœopathy has now been before the profession more than half a century, and it is still rejected by a very large majority of medical practitioners, and especially by nearly all who occupy places of eminence and distinction. It has met with "a steady rejection on the part of the great body of the profession, notwithstanding its claims have been perseveringly urged by its advocates." And it is to be "remembered that the profession which has so perseveringly and almost universally rejected homœopathy, is composed of men who have every variety of opinions, and are not bound together by any particular set of doctrines." Again, "many of those who practise according to this system are poorly educated and irresponsible men. Unable to get any hold upon the profession, homœopathy has received most of its votaries from the people."

The argument therefore against homœopathy from numbers and personal character is this; that it is still rejected by the majority of the medical profession, and condemned by the most distinguished teachers and practitioners of the art.

On the other side, it may be remarked, that a new fact or a new fancy must necessarily at first be known by a small minority of persons;—nay, a fact observed for the first time, or a fancy newly imagined, must, in the first instance, be limited to a single individual. Until they have been communicated to others they can be known only to the mind which has observed or imagined them. Truth and error are in this respect upon an equal footing. Harvey's discovery of the circulation of the blood, and Sir Kenelme Digby's invention of the weapon-salve start from the same point,—each from the mind of an individual. The progressive reception by mankind of the one or the other may be rapid, or it may be slow; little can be inferred from this progress in favour of the truth of the one, or the falsehood of the other. As therefore the rapid progress of homœopathy would not prove it true, so neither does its slow advancement prove it false. There are many reasons which account for and explain its comparatively tardy reception by the profession, these will be noticed on a future occasion;[1] but there is a force in one circumstance connected with this argument of the highest value, the importance of which demands the serious attention of every intelligent person;—the fact that the minority who have adopted homœopathy have done so after having examined and tested it experimentally in their own hands, and have been thus led to embrace it from conviction of its truth; while the majority, who continue to reject it, have not examined it, will not examine it, and confessedly remain in ignorance of the nature and extent of the evidences in its favour.

Let this last consideration have its due weight and what becomes of the objection to homœopathy that it has met with "a steady rejection on the part of the great body of the profession?" It tells as little against the truth of homœopathy as the fact tells against Christianity that, after eighteen centuries, a large majority of mankind still unhappily reject its evidences and its blessings.

Having said thus much, I will not enlarge upon this topic. That numbers and great names often give us very little help in our search after truth, is an old observation. I shall discuss the difficulties which impede the progress of homœopathy, in a future Essay,[2] only remarking at present, that some men tell us at once that they studied when they were students, and their pride is wounded by the request to "go to school again;" some men *will not* give themselves the trouble either to read, to observe, to experiment, or to think; some men cannot do either, to any useful purpose; while others agree with the vicar of Wakefield in believing that "there are but few that can confute them in argument."

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[1] In Essay X. [2] Ibid.

IV. The argument from *improbability*. This attaches to the *dose*. The novelty of the announcement that a drug may be divided, by rubbing in a mortar, into a million or a billion of parts is startling; but, when it is further announced that these doses are sufficiently powerful to act as remedies in disease, the statement is so incredible as to appear absurd.

The allopathist argues thus:—We have here two great improbabilities, and two observations in addition, which claim attention. The two improbabilities are—first, that such doses can be prepared, and, secondly, that they can have any efficacy in curing diseases; and the two observations are—first, that "the doses administered in homœopathic practice, especially at the present time, have an exceedingly wide range. Hahnemann himself, although he recommended the thirtieth dilution for common use, did sometimes resort to even allopathic doses, as for example, in the treatment of cholera with camphor." Many entertain the idea that the dose must be regulated by the different degrees of sensibility or impressibility of the patient; but, "if medicines produce, in infinitesimal doses, such effects as are attributed to them, and if there be such wide differences in the susceptibility of the sick, it must be very important to fix upon, exactly, the right dose in each case." "If an error should chance to be committed, *the effect must be horribly destructive*." And, secondly, that "if both ordinary doses and infinitesimal ones cure disease, they must," it is said, "do it in different ways. The action of the potentised infinitesimal upon the system must be regulated by different principles from those which govern the action of the same article in its crude form. Let me illustrate this truth in a familiar manner. You see a heavy weight raised by a rope; suppose now that some one take from that rope a filament so small that it is invisible, and with this raises the same weight.

We should say at once the rope and filament do not raise the weight upon the same principles,—that some new power is given to the filament which is not possessed by the rope. 'True,' says the homœopathist, 'that is clear enough, and we claim that a new power *is* given to medicine by trituration and attenuation!' Why then, I ask, do you not adhere to this view of the subject? You are not consistent with yourself. While you say that a new power is given to the infinitesimal which does not belong to the medicine in its crude state, and by this power it cures disease; you, at the same time, claim that the law 'similia similibus curantur' is the principle on which both infinitesimal and crude medicines effect cures, which is as absurd as to say that the invisible filament raises the weight upon the same principle as the rope does."

Such is the view of the argument as advanced against homœopathy;—the efficacy of the infinitesimal dose is utterly wanting, it is thought, on the score of *probability*.

In reply to the first assertion, namely, the improbability that it is practically possible to divide anything into a decillion of parts, it can be shown that nothing is more easy. Suppose we take thirty new and clean half-ounce bottles, and place them in a row; and put corks in them; and mark the corks with the numbers from one to thirty; and put into No. 1 ninety-eight drops of alcohol, and into each of the remaining bottles ninety-nine drops of alcohol; and put into No. 1 two drops of the "mother tincture" of any liquid medicine (which consists of the juice of the plant and alcohol in equal parts), and shake this bottle well; and put one drop of this first dilution into the bottle marked No. 2, and shake it well; and put one drop of No. 2 into No. 3, and shake it; and proceed in the same manner through the thirty bottles. By this time we shall have divided the original drop of the medicine so that the 30th dilution contains a decillionth part of it. This proceeding will not have occupied an hour, and the quantity of alcohol consumed will have been about *six ounces;* instead of the oceans of spirit required, according to the calculations of mathematicians and doctors.

Is not this quite simple and easy? And for a solid not less simple, though a little more laborious. A grain is to be carefully triturated with ninety-nine grains of sugar of milk in divided portions for an hour; a grain of this first trituration is to be rubbed in a similar manner for the second; and a grain of the second for the third trituration. After this the substance becomes soluble, and the remaining dilutions can be made as in the case of the tinctures; twenty-seven bottles being required to obtain the thirtieth dilution. For proofs that these dilutions retain the medicinal properties of the drug sufficiently to act upon disease, I must refer to Essay IX.

The accomplishment of the fact does away with the improbability.

In reply to the second assertion, namely, the improbability that these doses have any effect in curing disease, it can be shown that nothing is more true, if the testimony of every medical practitioner who is in the daily habit of administering them in disease can be relied upon. It is well known that the number of these witnesses now amounts to thousands; that they have been trained in medical studies and pursuits, as their brethren whom they have left in the ranks of allopathy; and it is also well known that none talk about the improbability of this medicinal action but those who have not been willing to witness it. The subject therefore stands in this position—the efficacy of the small dose is a fact which "strikes the eyes of all who do not keep them shut."

The strong impression which exists in my own mind of the certainty of this fact contrasts painfully with the inability felt to convey that impression to another. From this we may learn the great difference which exists between physical science and mathematics or morality; the latter admit of demonstrations, the former does not. We cannot know the facts of natural philosophy except by the observation of our own senses. We may believe some things to be true on the testimony of others, which we have not ourselves observed, as that there are men and trees in parts of the world which we have not visited; but if the things told us are very unlike our observations, we have the utmost difficulty in believing them, until we can observe them ourselves; then we *know* to be true what before we could not *believe* on any testimony from others. When the Dutch ambassador told the king of Siam that in his country the water, in cold weather, sometimes became so hard that it would bear an elephant, the king replied, "hitherto I have believed the strange things you have told me, because I look upon you as a sober fair man; *but now I am sure you lie!*"

Homœopathists are precisely in the predicament of the Dutch ambassador. What could he say to vindicate his truthfulness? Nothing short of a journey to Holland could clear him. What can the homœopathists say to vindicate theirs? Nothing short of a trial of the medicines can produce in the minds of their opponents the conviction of their honesty, and of the truth of their assertion. My inability to produce conviction by argument arises out of the nature of the case, not from its doubtfulness; great therefore as is the importance of this point, I shall content myself with a simple illustration.

Ruckert reports eighty-four cases of cure of *headache* effected by fifty-one different physicians. Only one remedy was given in each case, and the exact dose used is mentioned. Most of the cases were chronic, and of several years' standing.

"Strong doses were used, viz., from the pure tincture to the third dilution in twenty-one cases; one dose sufficed to cure in five instances; one dose in solution was repeated in one instance; repeated doses were required in fifteen cases.

"The higher dilutions, viz., from the fourth to the thirtieth, were used in fifty cases; one dose sufficed to effect a cure in thirty instances; one dose in solution and repeated in three instances; repeated doses were required in seventeen instances.

"The very high dilutions were used in thirteen cases; single doses in ten instances; in solution repeatedly in three instances."

Is it possible that all these recoveries can have been mere coincidences—*post hoc*, not *propter hoc?* Have each of these fifty-one physicians uttered a falsehood?

In reply to the first observation that the doses in homœopathic practice have an exceedingly wide range, it may be remarked again that the dose is, as yet, an unsettled and difficult question. One of the main causes of this unsettledness and difficulty is the manner in which Hahnemann himself has dealt with it. When expounding his belief in the *principle* of homœopathy, Hahnemann pursues the only scientific and legitimate course, he gives us the proofs which have satisfied his own mind of its truth; *we can examine these proofs*, and if they are as satisfactory to our minds as they were to his, we also assent to the principle, and believe it to be true for the reasons assigned. We believe it to be true, not because Hahnemann *said* it was true, but *because he has shown us the proofs of its truth*. We follow him in this as the astronomers follow Newton, and the chemists Richter and Dalton. Unhappily for homœopathy, Hahnemann has not pursued the same course with reference to the dose. *He has not given us the means of judging how far his conclusions on this subject are well founded.* He *says*, indeed, very like a dictator, "it holds good, and will continue to hold good, as a homœopathic therapeutic maxim, not to be refuted by any experience in the world, that the best dose of the properly selected remedy is always the very smallest one, in one of the high dynamizations (30th), as well for chronic as for acute diseases."[1] Now I have no objection to adopt the thirtieth dilution for a dose, if it can be shown me that it is really the best, but I cannot take any man's mere word, without proofs, on such a point. I am therefore under obligation to try the different dilutions for myself. How would any one look when an intelligent interrogator inquired of him the reason why he always gave the thirtieth dilution, if he could give no better answer than this, "I follow the ipse dixit of the master, Hahnemann *said* it was the best."

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[1] 'Organon,' p. 289, note.

Suppose the discoverer of the mariner's compass had proved to us experimentally the magnetic action which is its *principle*, and then told us, with a mysterious air, that the needle must always be five inches long, that no experience in the world could refute this, or prove that a needle four inches long, or one six inches long would answer as well; would it be wise and manly to submit to such dictation as this? So with the homœopathic dose, it must remain, not nominally, but really, an open question, until sufficient proofs can be collected to show us which is best.

It is to be remembered that Hahnemann's own views on the subject underwent many changes; although on each occasion, when he published them, they were delivered in the same peremptory and oracular tone. Some would have us to follow him with blind obedience; they would place him in that seat in medicine which Galen occupied for fifteen hundred years, and which Aristotle held in philosophy for a still longer period. May we, without giving offence, remind them of Locke's observation, "'Tis not worth while to be concerned what he says or thinks, who says or thinks only as he is directed by another."

Let me be understood. The objection is not to the adoption of this or that dose, but to the adoption of it *without proof that it is the best.* Give us the proofs and it shall be adopted on the instant. We are told, indeed, by some homœopathists, that the *onus probandi* that Hahnemann and his faithful disciples are in error lies on our shoulders. As it respects a *given dose*, the thirtieth dilution, for example, this is placing the matter in a false position; it is calling for proof of the *negative* before any proof of the *positive* has been advanced.

On this point we have had a great deal of assertion but no proof. Now the first burden of proof clearly lies with the teacher, to show that he is right. Had Hahnemann given us the details of five hundred or a thousand cases, illustrating and confirming his directions regarding this dose, the latter would have had weight; a dogmatic assertion without an attempt at proof, is not entitled to respect. As it regards the fixing upon *any dose* in the manner done by Hahnemann, I accept the challenge, and point out the error. "Hahnemann and his faithful disciples" are not entitled to choose a dose, and demand that every one shall adopt it, unless they give the reasons upon which the choice rests, in such a manner as will enable others to judge how far those reasons are adequate to support the choice. *This* is the error. A dose has been prescribed. We wait for such evidence in its favour as the nature of the case admits.

I am far from thinking the variety of doses an unimportant matter; on the contrary, I think it is the point to which homœopathists should very much concentrate their attention, in the hope that a body of facts may be collected from which we may infer, in a truly scientific manner, which is the best dose, or series of doses. In this we must be guided by proofs, not by authority.

In the mean time, daily experience abundantly testifies the value and efficacy of the various small doses, and proves that so far from being "horribly destructive," no permanent evil results from their use.

The second observation is one of considerable interest and importance. It is said, "If both ordinary doses and infinitesimal ones cure disease, they must do it in different ways." And this statement is illustrated by supposing a rope and an invisible filament to raise the same weight. Now we know that a rope and a thread so fine as to be invisible, could not raise a heavy weight on the same principle; because we know something of the mechanical principles upon which the rope would raise the weight, and we know that the thread could not raise it on those principles,—it could have no mechanical power. If, therefore, the illustration were really a parallel to the point in question, it would make the conclusion evident; but the truth is, it is not a parallel, and therefore no illustration at all. We do not know the mode of action of the ordinary dose, neither do we know the mode of action of the small dose, consequently we cannot know that the modes are different—for anything we know to the contrary, the two doses may act in the same mode—on the same principle, and therefore the law of similia similibus curantur may apply to both. Thus both the observation and its ingenious illustration disappear.

The objection, however, is fatal to the dynamization hypothesis of Hahnemann, and may serve as a warning to some homœopathists not to advocate that untenable notion to the extent they do. The *assumptions* of Hahnemann on this subject, in his 'Organon' are unwarranted, and consequently his *assertions* are of little value. For example, he assumes that "spiritual power is hid in the inner nature of medicines;" that "homœopathic dynamizations" (rubbing the solid in a mortar, and shaking the liquid in a phial), "are real awakenings" of this power; and hence at one time he asserts that there must be ten shakes, and at another, only two. He is not afraid to venture upon what is evidently a shot quite at random. "I dissolved," he says, "a grain of soda in an ounce of water mixed with alcohol, in a phial, which was thereby filled two thirds full, and shook this solution continuously for half an hour, and this was in dynamization and energy equal to the thirtieth development of power!"

It would be very difficult for any one holding this hypothesis of "dynamization" or "spiritualization" to answer satisfactorily the objection now under consideration. It is highly improbable that the principle of homœopathy can apply equally to the action of drugs in a crude state, and in infinitesimal doses, if the latter act in a "spiritual" manner, and, as supposed, not after the same mode as the former. Of course the medicinal action is meant ; a large dose of a drug, *e.g.*, nitrate of silver, will have other actions, such as chemical ones, in addition to the medicinal effect. Other reasons will be adduced, in future Essays, why this hypothesis ought to be abandoned.[1]

Hahnemann has discovered facts for which the human family owe him a debt of gratitude, but it is impossible to defend his speculations, or to apologise for his dogmatism. In some respects he resembles Kepler, whose name is had in grateful remembrance by astronomers, for his discovery of three remarkable laws connected with the planetary system ; while all his numerous speculations have passed into oblivion. Those of Hahnemann must have a like fate. They have greatly impeded the progress of homœopathy, by hiding its truth. I doubt not also that many intelligent inquirers have been repelled from the study of it by his intolerable dictation.

To separate truth from fiction is generally a difficult and ungracious task, and seldom popular. The sentiment which Plato puts into the mouth of Socrates, "τὸ γὰρ ἀληθὲς οὐδέποτε ἐλέγχεται,"—"truth is never refuted"—is the encouragement to this labour ; the love of truth is the motive which constrains to it ; and the discovery and exhibition of truth is part of its reward.

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[1] This must be understood to mean Hahnemann's Hypothesis of *the development of a new medicinal action* by trituration, distinct from the action of the crude medicine. There is a sense in which the word "dynamic" may be applied to the action of medicine in *all* doses.

ESSAY III.

THE CONTROVERSY ON HOMŒOPATHY,

(CONTINUED.)

"That unwarlike learning, which is nourished by ease, and flourishes by praise and reward, which sustains not the vehemency of opinion, and is the sport of artifices and impostures, is overthrown by opposition."

LORD BACON.

ESSAY III.[1]

THE CONTROVERSY ON HOMŒOPATHY,

(*CONTINUED.*)

> "The thing plainly is that mankind are naturally endued with reason, or a capacity of distinguishing between truth and falsehood."
>
> BISHOP BUTLER.

THE subject of this Essay is the defence of homœopathy in reply to medical writers; and the book selected to be replied to is 'The Fallacies of Homœopathy,' by Dr. Routh.[2]

In this book Dr. Routh commences by stating that it is "at the request of several distinguished friends," that he has been "induced to publish in a separate form his researches on the subject of homœopathy." His book, moreover, has been frequently referred to by medical men attached to the old mode of practice, as containing their arguments against homœopathy. It may therefore fairly be presumed, that it expresses the present views of that portion of the profession. A reply seems called for on the part of homœopathy.

Dr. Routh then observes that "this system (of homœopathy) has unfortunately lately made, and continues to make such progress in this country, and the metropolis in particular, and is daily extending its influence, *even amongst the most learned*, and those whose high position in society gives them no little moral power over the opinions of the multitude, that *our profession is, I think, bound to make it the subject of inquiry and investigation.*" For this statement homœopathists are obliged to Dr. Routh. It expresses in forcible words an important truth,—the rapid spread of homœopathy among that portion of the community best able to appreciate its value; and it well seconds their own oft-repeated and urgent request that medical men would make homœopathy the subject of inquiry and investigation.

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[1] First published in 1852.

[2] '*The Fallacies of Homœopathy*,' by C. H. F. Routh, M.D., &c. &c. London, 1852.

Dr. Routh next proceeds to remark that "violent opposition to homœopathy can do no good. Abuse, intolerance, cannot be accepted by the world as a fair and philosophical inquiry. These can only call forth new defenders. . . . All doctrines are founded on truth, or what is supposed to be truth. The way to disprove a doctrine is, therefore, not by assailing it as ridiculous or absurd,—a conviction of error can only follow when the foundations upon which it is based are shown to be untenable. Examples of such unphilosophical demeanour in refusing fair inquiry, or prosecuting an *ex parte* investigation are not wanting. . . . Thus the homœopathist has reason on his side when he appeals to the history of the French Academy, as exemplifying intolerance and unfairness in inquiry. He tells us that in 1642, this assembly declared that the blood did not circulate in the body; in 1672, that it was impossible. In 1774, after having opposed inoculation for fifty years, it admitted its advantages, the moment three princes of the royal blood had been inoculated contrary to their permission. In 1609, it expelled one of its members for making use of, and curing his patients of ague by quinine. Even among ourselves, the great Harvey was persecuted for his discovery (of the circulation of the blood). The time was when the surgeon who had dared to bring together the edges of a cut surface to unite by the first intention (that is to heal immediately), or who had ventured to dress wounds by water dressings, in lieu of plugging by large pieces of lint and cerate (by which means the healing of the wounds was protracted for weeks, or even months), met with *the universal reprobation of the profession, and was accused of quackery*. Even in later years, with what opprobrious names was the discovery (of vaccination) by the great Jenner assailed! Nay, but very recently, with what violence was the introduction of the stethoscope opposed! and in the present year how have not certain physician-operators been insulted by the ascription of motives, not certainly the most honorable." These parallels clearly exhibit the unfair reception which homœopathy has hitherto met with from the bulk of the medical profession. We have only to thank Dr. Routh for having so well expressed the true state of the case.

Thus far for introduction. Dr. Routh next addresses himself to the investigation of homœopathy. To this I will apply myself with all seriousness, and in such a manner that I trust neither Dr. Routh nor my readers will have just cause to complain of any impropriety on my part. I agree with Dr. Routh, that "he only is the true philosopher who can so far separate his mind from the bias of the day as to extricate it from the dazzling perplexities which surround him, and by adopting only those conclusions which logical reasoning deduces, is enabled, out of this labyrinth, to bring out truth."

Instead of adopting Dr. Routh's division of the subject, I shall prefer the following :—

I. The consideration of the principle of homœopathy —"Similia similibus curantur."

II. The question of small doses.

III. The statistics upon which is founded a preference of homœopathy, as the most successful method yet known of treating diseases.

I. The principle of homœopathy, or the supposed law of nature upon which it is based. Dr. Routh observes that "this law is defined by Hahnemann as follows—'That in order to cure in a mild, prompt, safe, and durable manner, it is necessary to choose, in each case, a medicine that will incite an affection similar (ὅμοιον πάθος) to that against which it is employed.' It was, it is said, discovered in 1790, by Hahnemann, while engaged in translating Cullen's Materia Medica."

Having endeavoured to explain this principle to some extent in the first Essay, while answering the question, "What is homœopathy?" and intending to enter fully into the consideration of it in the three following Essays, I will suppose for the present that my readers understand the basis of homœopathy, the general fact or maxim "similia similibus curantur."

In all controversies it is well, I think, to ascertain first how far the parties are agreed. Let us see, therefore, how far Dr. Routh assents to this principle, before we consider his objections.

"Allopaths, admitting the occasional truth of this doctrine, 'similia, similibus curantur,' have given the larger dose. The experiments of Majendie have shown, that tartar emetic in doses of six to eight grains, will produce, amongst other lesions, pneumonia, if not rejected by vomiting. Every day's experience proves the efficacy of large doses of tartar emetic in curing pneumonia and other affections of the lungs. Arsenious acid, long continued, will produce a variety of cutaneous eruptions. The advantage of arsenic in many of these diseases is, on the other hand, well recognised. Certain peculiar eruptions which occur after taking mercury, have been described as produced by it, and which closely resemble those against which mercury is a specific. Here then are instances of the occasional truth of this law." (p. 6.)

Our thanks are due to Dr. Routh for such excellent examples of the law of homœopathy. We have only to go on with other instances. Hippocrates, the father of medicine, two and twenty centuries ago, says that a drug which will produce strangury, will cure it, when it has arisen from another cause; and Dr. Greenfield, a member of the Royal College of Physicians in London, was sent to Newgate in 1694, by the President of his College, for giving cantharides (the blistering fly, which all know often produces complaints of the bladder), with great success in cases of this kind. Again, every one knows that cinchona (Peruvian bark), is a specific for ague; "Now," says Dr. Routh, "bark *certainly produces symptoms*, as alleged by homœpathists, *very like those of ague*." Again, our thanks are due to Dr. Routh. Nitric acid is a great remedy for salivation,—Dr. Pereira (an eminent allopathic authority) says it excites or produces salivation. Sulphur often produces eruptions on the skin, as those who frequent baths like Harrogate well know: it is notorious as a remedy for similar affections. Thus we might proceed, not only through the fifty medicines originally proved in this way by Hahnemann himself, but through upwards of three hundred which have been proved since his day, by the persevering industry of others. Nearly all known medicines have been thus examined,—a larger number than is included in the Materia Medica of the college of physicians as published in their official pharmacopœia. A strong method of testing such a principle as this is to select a poison, and note the symptoms produced by it, and then to give it in smaller doses in cases of natural disease which present similar symptoms, but for which it has never before been given as a medicine; if it be found to cure such cases, the truth of the law is greatly maintained. This has been done in many cases, an allusion to one instance will suffice. Belladonna, the deadly nightshade. Children have been poisoned by the berries of this plant, when they have met with them in the woods and eaten them. They have suffered from fever, affection of the brain and throat, and a scarlet eruption on the skin. Hahnemann was induced to test the principle which had been suggested to his mind by an appeal to this experiment; he gave

Belladonna in scarlet fever, and found not only that it was a better remedy than any previously known, but that it also proved a preservative from it when given to those exposed to the infection of the scarlet fever.

That which is merely a suspicion in a single instance, becomes a strong probability when confirmed by so many important examples as are adduced by Dr. Routh; and an established reality when it is found not only that it is applicable to hundreds of other substances, but that no serious or material exception can be brought forward against it. This law is now ascertained to be a practical guide to the best use that can be made of every valuable remedy we possess. Homœopathists put it to a continual and daily test, and it does not fail them. The few exceptional instances which Dr. Routh adduces against it are of the most meager description; he goes with us a long way in the admission of the principle, we have only to carry him with us a little further.

Suffer me to ask, why do astronomers rely upon the law of gravitation? They put it to continual tests, and it does not fail them. So let the law of similia be tried, and so let it be trusted *till it fails*.

Thus Dr. Routh's opposition to the principle of homœopathy seems to have disappeared. His own instances have laid a foundation which only required to be built upon, that it might become an impregnable castle of truth.

We may now proceed to the second matter in discussion.

II. The small dose.

This is a great stumbling block with Dr. Routh, as it is with many others. Let us, however, as we have done in the consideration of the principle, first ascertain how far Dr. Routh goes along with us, and then we shall perhaps know better where we differ.

"*It is certainly true*," says Dr. Routh, "*that small doses, and especially in large dilution* (which is the mode in which homœopathic remedies are prepared), *will oftentimes act very satisfactorily.*" (p. 17.) How does he know it? "*I have seen this,*" he replies, "*repeatedly.*"

How small the doses were which he has seen act thus satisfactorily, Dr. Routh does not inform us, but this is of little moment. It is obvious that he has gone *a certain length* with the small doses, and that, *so far as he has gone experimentally*, they have acted very satisfactorily in his hands. The limit then of this satisfactory action is the same as the limit of Dr. Routh's experience. So far as he has tried them, they have acted very satisfactorily,—he has tried none so small that they have failed him. Now, this is precisely what every one testifies; so far as any have tried them, the doses becoming smaller and smaller, or, in other words, more and more diluted, they have acted satisfactorily.

To this point then we are agreed; so far as either of us have ascertained this practical point *experimentally*, we have obtained satisfactory action from our doses. We begin to differ only where Dr. Routh's experience ceases, and he begins to conjecture. It is well to make this point clearly evident.

Dr. Routh was about to define the limit of the legitimate and satisfactory dose,—smaller than which every dose would be "a piece of affectation." (p. 7.) He says that what he has seen repeatedly is certainly true; does it not, therefore, seem extraordinary that he did not go on trying smaller and smaller doses so long as they continued to act satisfactorily, and until they became so small as to cease to do so? Had Dr. Routh pursued this course, selecting his medicines in each case in accordance with the law of similia, his testimony would have been of weight, but instead of proceeding thus, he has ventured to condemn every dose less than those he has himself tried, for the following reason—"We are compelled," he says, "to conclude that the infinitesimal doses, *neither by analogy, nor upon any theoretical grounds*, can have any power upon the human frame." (p. 16.)

But, in a case so peculiar as the action of drugs upon a living body, what analogy or what theory have we to guide us? Is it not a matter of experience? A question of *fact?* By what analogy, or theory, did Dr. Routh ascertain that his small doses in large dilution would act very satisfactorily? His reply is the only sensible one which can be given. "I have seen it repeatedly, *therefore* I believe it to be certainly true!"

Suppose then he were to try still smaller doses, (which, perhaps, true analogy would lead him to do,) and suppose he were to see that these also acted very satisfactorily, will he not know that this also is certainly true? What then will become of *his* analogy and theory? It is a vain pretence. These are questions of fact, and the public have reason to be aggrieved with Dr. Routh, for objecting, from false analogy and theory, to a matter asserted to be a fact which he refuses to verify by "seeing" it.

It is a repetition of the conduct of Galileo's brother-professor, who refused to look through the newly invented telescope, *lest he should see* Jupiter's moons. He preferred the argument from false analogy and theory, that *they could not be there.* But it is more blameable in Dr. Routh, because the matter in hand is still more important to the well-being of mankind.

It appears, then, that Dr. Routh's opposition to the doses frequently given by homœopathists rest thus: he admits that he has repeatedly seen small doses act very satisfactorily, and he asserts that this is certainly true; but he asserts also that what he has not seen, and refuses to see, cannot possibly be true! though many others, his equals, at least, in intelligence and credit, have seen it, and testify to its truth. "Analogy and theory compel him to conclude that such doses can have no power."

I conclude by observing that we value Dr. Routh's testimony as to what he has repeatedly seen, and agree with him in believing that it is certainly true; our only difference on this head being that we decline to adopt his analogical and theoretical opinions, because they are destitute of foundation. We recommend him to carry on his experiments with still smaller doses, and we doubt not he will repeatedly see that they also act very satisfactorily; he will then come to the same conclusion with respect to them that he has with regard to those he has already tried, and will become convinced that the power and efficacy even of infinitesimal doses is "certainly true."

I must remark however, that, after all, the small dose is not homœopathy. It is the principle—the law of similia similibus curantur—which constitutes homœopathy, in whatever dose the medicines may be given.

We now come to the third part of our subject.

III. The comparative success of homœopathy, as evidenced by the general mortality of hospitals.

We might wish that the means at our disposal were more extensive than at present they are; but it is a difficult subject, and we are indebted to many laborious men for the pains they have taken in registering their cases. We are under obligations for these labours, and we must take them as our guide in the inquiry. "It is to be regretted," says Dr. Routh, "that the statistical returns for comparison from allopathic hospitals are frequently insufficient for special diseases; on the contrary, this is a point to which the homœopaths have directed particular attention, and they have already derived benefit from it with the public." (p. 37.)

Under the preceding heads I have endeavoured to ascertain, first, wherein Dr. Routh and homœopathists agree, in order to lessen, as much as possible, the grounds of controversy. I shall again seek to reduce, within the smallest compass, the matters wherein we differ on this most important, and, to the public, most interesting part of our subject.

We are indebted to Dr. Routh for having taken pains in collecting and placing in juxta-position a variety of public statistics. From these I will make some extracts :—

PNEUMONIA (inflammation of the lungs).

	Admitted.	Died.	Mortality per cent.
Allop. hospital, Vienna . .	1134	260	23
Hom. do. do. . .	538	28	5

This is part of the first table in the Appendix. Before commenting upon it, it will be well to allude to another question, the comparative success in cases in which no medicine, either in large doses or small ones, has been given. Dr. Routh says a great deal upon this subject; I quote the following passage: "Dr. Dietl, the allopathic physician of the Wieden hospital, in Vienna, anxious to test the efficacy of dietetic regimen in pneumonia, instituted a series of experiments. In the course of three years that gentleman treated 380 cases of pneumonia. Eighty-five of these cases were treated by repeated bleedings; of this number 17 died, or 20 per cent.; the remaining 68 recovered. One hundred and six were treated with tartar emetic; the mortality was now 20·7 per cent., 22 dying, and only 84 recovering. The remaining 189 were treated by simple dietetic means; the deaths amounted to 14, or 7·4 per cent., 175 recovering. The above data have been given upon the evidence of Dr. Roth ('Hom. Times,' No. 49), an eminent homœopathic writer." (p. 55.)

Here then is a point upon which both sides are agreed, seeing that this experimental investigation by Dr. Dietl is adduced by opposing writers. My readers will note well the information it imparts. It appears from this statement that when cases of inflammation of the lungs, admitted by all to be a dangerous disease, are treated, as is almost universally done by allopathic practitioners, by bleeding and large doses of powerful drugs, about twenty die out of every hundred, (in the Glasgow infirmary twenty-seven,) while under simple dietetic management only about seven die in a hundred cases.

"I think," says Dr. Routh, "we may therefore conclude that nature, or very simple emollient drinks, quiet, rest, a warm atmosphere, will often cure pneumonia *apart from any drugging whatever.*" (p. 56.) He had previously (p. 35) observed "that simple hygienic treatment, *i. e.*, attention to diet, regularity in the hours of meals and of rest, exercise, change of air, will *oftentimes cure many diseases*, apart from any so-called drug, indeed in a few cases *where drugs have failed altogether*, cannot be disputed."

The inference that entire abstinence from medicines is to be preferred to the large doses of poisonous drugs, and to the loss of blood, would seem to be inevitable. It is true that Dr. Routh, alarmed at this conclusion staring him in the face from his own pages, exclaims, "God forbid that we should assent to such a heresy!" But how can it be escaped from? His own statistics in favour of diet are such a mortal thrust at old physic that he has himself put it irrecoverably "hors de combat."

Homœopathists then agree with Dr. Routh that simple diet is better than large dosing.

Nor is this opinion a new one. "If," says Addison, with exquisite humour, in the 'Spectator,' for March 24, 1710, "we look into the profession of physic, we shall find a most formidable body of men; the sight of them is enough to make a man look serious, for we may lay it down as a maxim, that when a nation abounds in physicians *it grows thin of people.* Sir William Temple is very much puzzled to find out a reason why the northern hive, as he calls it, does not send out such prodigious swarms, and overrun the world with Goths and Vandals as it did formerly; but had that excellent author observed that there were *no students in physic* among the subjects of Thor and Woden, and that this science very much flourishes in the north at present, he might have found a better solution for this difficulty than any of those he has made use of. This body of men, in our own country, may be described like the British army in Cæsar's time, *some of them slay in chariots, and some on foot.* If the infantry do less execution than the charioteers, it is because they cannot be carried so soon into all quarters of the town, and despatch so much business in so short a time. Besides this body of regular troops, there are stragglers, who, without being duly listed and enrolled, do infinite mischief to those who are so unlucky as to fall into their hands."

It would seem, therefore, that what the advocates of homœopathy have really to aim at is to prove its superiority, not over large doses of medicine, but over no medicine at all. Now, in reference to the cases of pneumonia reported above, (all of them occurring in Vienna, and at about the same period of time, and therefore fairly to be supposed tolerably similar,) it will be observed that while diet lost seven in the hundred, homœopathy lost only five. Again, in the Irish famine fever, referred to in my former pamphlet, I may remind my readers that while Dr. Tuckey, in the Bantry union hospital, with every advantage, lost more than thirteen per cent. under large doses, and, while in another hospital, where no medicine was given, ten died in the hundred, Mr. Kidd treated in their own huts, with every unfavorable circumstance, 112 cases with homœopathy, and lost only two.

To pursue this subject further would carry us away from our present object.

That the cases treated by Dr. Fleischmann, in the homœopathic hospital at Vienna, were really pneumonia, we have the following case given us in evidence by Dr. Routh himself: "A young girl of about twenty-three, affected with extensive double pneumonia (the lungs on both sides of the chest inflamed). All the symptoms were unusually marked, accompanied with high fever, lividity of countenance, occasional delirium; and yet without a single poultice, cataplasm, or other treatment than the inert globule, rest, emollient drinks, a warm atmosphere, and starvation, she got well. That it was pneumonia, I convinced myself by stethoscopic examination. The disease attained the second stage, but it was fully four weeks before she was convalescent, and all the physical signs of the disease had disappeared." (p. 54.) But they did disappear, which is frequently not the case after the debilitating effects of bleeding and drugs, even in cases classed under recovery.

That the globule was "inert" in this case is precisely the point under discussion, and therefore cannot "logically" (Dr. Routh is fond of the word) be taken for granted. The result of the case would rather appear to prove the contrary.

The following are a few more of the statistics given by Dr. Routh:—

PLEURISY.

	Admitted.	Died.	Mortality per cent.
Allop. hospitals . .	1017	134	13
Hom. ditto . . .	386	12	3

PERITONITIS.

	Admitted.	Died.	Mortality per cent.
Allop. ditto . . .	628	84	13
Hom. ditto . . .	184	8	4

DYSENTERY.

	Admitted.	Died.	Mortality per cent.
Allop. ditto . . .	162	37	22
Hom. ditto . . .	175	6	3

FEVER, EXCLUDING TYPHUS.

	Admitted.	Died.	Mortality per cent.
Allop. ditto . . .	9697	931	9
Hom. ditto . . .	3062	84	2

TYPHUS.

	Admitted.	Died.	Mortality per cent.
Allop. ditto . . .	9371	1509	16
Hom. ditto . . .	1423	219	14

(The deaths from typhus in Vienna, where occurred most of the homœopathic patients, were in the allopathic hospitals, 19 per cent.)

ALL DISEASES.

Dr. Routh gives the statistics of hospitals in London, Edinburgh, Glasgow, Liverpool, Vienna, Leipsic, Linz, and other places; the following appears to be the general result:—

	Admitted.	Died.	Mortality per cent.
Allop. hospitals—grand total . . .	119,630	11,791	10·5
Hom. ditto, ditto . .	32,655	1,365	4·4[1]

Such being the actual results given by Dr. Routh, it will be immediately inquired, how does he get over such a startling testimony in favour of homœopathy? For, evidently, on the face of these figures the question is settled.

It excites surprise to discover that the best way Dr. Routh can find to obviate the conclusion thus unavoidably suggested, is to bring two grave accusations against the gentlemen having the care of the homœopathic hospitals, without evidence, except of a very unsubstantial character, to support his charge. He accuses them of *selecting their cases*, that is, of wilful fraud; and of false diagnosis, or *mistaking the nature* of the diseases, that is, of great ignorance. It will be admitted by all that the most unequivocal facts ought to be brought forward to justify such aspersions as these upon the moral character and professional qualifications of any body of men. I might answer these charges very briefly, but it is an old observation that—

> "Nihil est quin male narrando possit depravari,"

There is nothing which cannot, by an ill way of telling it, be made to appear evil.

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[1] The figures in these two lines have often been quoted as if taken from Dr. Routh's book. The preceding paragraph shows that they were obtained by adding together the separate statistics given by Dr. Routh. (1873.)

an equal, if not greater proportion of simple diseases seldom fatal.

But it is argued—

"3. Another reason of the increased rate of mortality in allopathic hospitals, is in the want of room to admit milder cases of disease. It must be obvious where there is more room for the admission of less serious cases, the annual mortality will be less." Very true, but the allopathic hospitals are considerably larger than the homœopathic hospitals; the latter therefore are disadvantageously circumstanced in this respect. This is a "reason" which makes the favorable results of homœopathic treatment still more striking.

Dr. Routh next asks—

"What if it should appear that, proportionally to their number of beds, they admit more patients, perhaps twice as many; will this not be evidence that they have a large number of milder cases?" Not at all. But rather evidence that the cases, though severe, are more quickly cured and dismissed.

"Certainly, they seem to admit a large number of chronic cases." If so, how is it that the beds change their occupants so rapidly? Every one knows that chronic cases, under the old mode of treatment, are tedious and difficult of cure.

Dr. Routh proceeds—

"4. An important element in hospitals towards increasing or diminishing mortality is the degree of comfort of patients, and the ventilation of the building." If the old hospitals are deficient in these respects, it is high time that such defects should be brought under the notice of the governors of these hospitals.

"5. Another circumstance which will explain the different rate of mortality in homœopathic hospital returns, is in the class of patients admitted. . . . . In regard to Dr. Fleischmann's hospital, the patients are not the very poorest." Dr. Routh himself contradicts this statement further on (p. 68), where, in endeavouring to account for the large proportion of fever cases, he says, "Fleischmann tells us he admits the poorer classes." It is moreover the fact that his hospital is situated in a poor manufacturing district of Vienna, out of which it must necessarily receive the majority of its patients.

"6. Sex is another circumstance which exerts a powerful influence on disease in general." But how this affects the general mortality of hospitals receiving both sexes indiscriminately is not suggested.

"7. Age materially affects the cipher of mortality. . . . . It is precisely between ten and forty that persons are most healthy and least likely to die. . . . Between ten and forty, they have 21 per cent. or rather less than one third too many patients; and above forty, they have 6·8 per cent. or nearly one half too few patients. . . . The proof of selection according to favorable ages is perfect." *How perfect* this proof is shall be shown by the following quotation from the British Journal of Homœopathy, [No. 40, page 347.] "We are not told whether or not allopathic hospitals have a sufficient number of patients above 40,—but we can inform Dr. Routh that they have not. We do not however on this account charge these hospitals with an attempt at deception, but content ourselves with the simple fact that the missing aged poor Dr. Routh is in search of are not to be found in hospitals, either homœopathic or allopathic, but quietly engaged picking oakum within the walls of the poor-houses."

"Lastly," concludes Dr. Routh, "the homœopaths prove too much. When we come to look at the homœopathic mortality, as collected from some of their hospitals, we find it is considerably less than the mortality of any given population, including the *healthy* as well as the diseased. . . . . A 2 per cent. mortality is a common occurrence. The homœopaths thus prove too much, since their mortality, including their worst and most severe cases, is positively less than that of ordinary populations in most European countries, which average 2 to 2½ per cent." It is sufficient to say, in reply to this, that the mortality in the hospitals is what takes place during an average of less than a *fortnight's* treatment, while that of entire populations is the mortality in a *year !*

Such are the arguments "on the general mortality of hospitals" advanced by Dr. Routh to prove the "Fallacies of Homœopathy." They are repeated on "the mortality in particular diseases." For example: on the table for pneumonia he observes that it is "a result most favorable to homœopathic treatment . . . . to be explained by the selection of cases, the comfort of the patient in the hospital, the age, sex, &c." It will be remembered that the small number of deaths from all diseases was explained by the selection of mild cases; here we have the opposite complaint that too many cases of pneumonia are "selected!" "I find that in the two years 1848 and 1849 there were admitted into the general hospital at Vienna 51,709 cases altogether. Of these, 1134 were cases of pneumonia, or 2·1 per cent. Apply this test to Fleischmann's (comparatively very small) hospital, out of 6,551 cases, admitted between the years 1835 and 1843, there were 300 cases returned as pneumonia, or 4·5 per cent." I remark, 1st, That the exclusion of diseases of the skin and other chronic diseases from Fleischmann's hospital, which constitute a considerable class in the general hospital, renders this comparison, to a considerable extent, inapplicable. 2dly. That the comparison is defective in point of time, the years 1835-43 being compared with 1848-9. We all know how a disease like inflammation of the lungs varies in frequency in different years; and 3dly. That the statement proves how unfounded was the first charge of "selection" of a too large proportion of mild cases, and that in reality this hospital *receives and cures a much larger proportion of severe acute cases* than the allopathic hospitals.

On the table for pleurisy, Dr. Routh says,—as before, the advantage is in favour of homœopathy. . . . . . "There is reason to believe the cases are either not *genuine or selected.*" What reason? "The number of cases admitted are at least *double the number* admitted in allopathic Institutions." And yet it was pretended above that the general mortality from all diseases is reduced by the selection of too many mild cases, and the "rigid exclusion" of such serious ones as pneumonia and pleurisy are admitted to be! As to the cases not being genuine, the hospitals are constantly open to inspection; medical men are invited to witness the practice; Dr. Routh has visited them, he brings forward no sufficient evidence on which charges so dishonorable to the whole profession should rest; his assertions and insinuations are directly contradicted by an eminent allopathic practitioner, who has also visited these hospitals, and who says that the cases he saw treated in Fleischmann's homœopathic hospital were fully as acute and virulent as any he had observed elsewhere.—*Wilde's Austria*, p. 277.

Dr. Routh's further objections are equally self-contradictory or altogether futile and frivolous. We have seen that he asserts that because the homœopathic hospitals have a larger number of patients annually in proportion to their number of beds, therefore their cases are not similar to those in the old hospitals. We infer that they are more quickly cured. On the other hand, he complains that the pneumonia cases remain on an average too long in the hospital: may we not rather conclude that this apparently increased time arises really from fewer of the cases dying? It is *death* which shortens the period *for these* cases in allopathic hospitals. Again, from the fact that the cases get cured quickly, it is concluded that they are not genuine. Is not this again taking for granted the thing to be proved? Is it not much more reasonable to draw an inference in favour of the treatment from such speedy recoveries? What will be thought of attributing the cures to the "humility and gentleness" of the sisters of charity? Their "calm aspect of religion;" "the beauty observed in their persons," and "their melodious accents?" What sort of a corner has Dr. Routh been driven into, that he must fight with such weapons as these? Does he feel his gallant ship sinking beneath him, that he is catching at straws?

The statistics are genuine. The very existence of a homœopathic hospital in Vienna is itself a convincing proof of the superior value of the new treatment. It was because Dr. Fleischmann, when the Asiatic cholera raged in Vienna, cured double the number that were saved under the old system, that the emperor removed the restrictions which had previously been imposed upon the practice of homœopathy in his dominions, and established the hospital which has since been one of the principal schools of homœopathy in Europe. Had Dr. Routh's objections been sufficiently weighty to destroy our confidence and our hopes thus excited in homœopathy, we might indeed have greatly regretted it for humanity's sake, but we must have bowed to the conclusion. If, however, as I think my readers will by this time have been convinced, they have rather been "frivolous and vexatious," we may cheerfully dismiss them, and thankfully indulge our hopes that this improved method of treating all our bodily ailments will become increasingly beneficial to mankind. Hard indeed must that heart be that will not rejoice at such a prospect as this!

It appears then that, with respect to the principle of "like curing like," it is admitted to a considerable extent by our opponents, as indeed it was by Hippocrates himself, emphatically and deservedly recognised as the Father of Medicine; and that no reason has yet been shown, sufficient to set aside the proofs in favour of its being received as a general rule of universal application.

That with respect to the efficacy of small doses, this is also admitted to the extent that it has been practically tested:—so far as the small doses have been tried, they have been found to act satisfactorily. Now, as Dr. Routh himself contends that "we have no right to argue *à priori*," (page 12,) we feel justified in asserting that *à priori* or theoretical objections to doses which have not been tried, *are of no force*, and may safely be disregarded, and at once rejected.

That with regard to the administration of medicines we learn from our opponents, in the most conclusive and self-evident manner, not only the inefficiency, but the positively hurtful nature of the usual treatment by large doses; and that with regard to the statistics which speak so loudly and so unequivocally in favour of homœopathy, we have seen that the objections brought against them are not of sufficient validity to shake our confidence in their truth.

In conclusion, the published statistics of homœopathy are important in themselves, and of value to medical practitioners, either as preliminary information, to induce them to study homœopathy, seeing that by them at least a *primâ facie* case for inquiry is made out; or as a confirmation to their own private trials on the subject, if the information come, as it no doubt often does, after that private examination has been made. Still the main reliance is to be placed upon what happens in our hands, and under our own eyes. Whatever charges of unfairness or fraud may be brought against other persons, we know whether we ourselves are sincere or not. The subject is too serious, and the consequences too important to each individual practitioner, to allow him to be careless in his own proceedings. He is almost necessarily cautious, and awake to all the sources of fallacy to which he may be exposed. He procures the books and reads them; he obtains the medicines, and with intense interest tries them; he expects them to fail, he is almost sure he shall be able to prove that the thing is a delusion. He selects simple cases at first, both for his patient's sake and his own, the remedies apparently act beyond his expectation, at any rate the patients quickly recover, better and more speedily than if he had given them his usual doses. He reasons thus:—even if the medicines have done nothing, the patients have been gainers, they have been spared the taking of nauseous physic, perhaps the loss of blood, or the pain of a blister, and they have speedily recovered; so that supposing it has been diet and regimen, it is evident that diet and regimen do better without drugs than with them. This point becomes settled, that drugging, and bleeding, and blistering are bad. By degrees more serious cases are tried; cases, such as croup, where diet and regimen are out of the question, seeing that if relief be not speedily afforded, death must ensue; and how does the conviction of the efficacious action of the medicines then flash upon the mind! When a violent paroxysm of croup passes off in an hour under the influence of mild doses of aconite and hepar sulphuris and spongia, without the warm baths, and emetics, and leeches, and blisters, which before were considered indispensable; when an equally violent fit of tic douloureux yields in a few moments to the appropriate remedy; when inflammation of the brain yields to belladonna, and inflammation of the lungs subsides rapidly under phosphorus; when such universally fatal diseases as diabetes (sugared urine) are, if not absolutely cured, at least so greatly relieved, that life is prolonged for years; what further proof does he require to convince him of *powerful medicinal action* in the remedies employed? What then is the conclusion arrived at by the anxious but patient and persevering inquirer? That homœopathy is a boon to mankind from the Giver of all good, and that it is his duty to embrace it, and to advocate its cause to the best of his ability.

ESSAY IV.

THE PRINCIPLE OF HOMŒOPATHY.

" The discovery of natural truth has been remarkably slow. When the discovery is a single fact many years commonly elapse before the next fact in connection with it is brought to light. When it is of a more general kind, and partakes of the nature of a law, it more commonly suggests other truths and valuable circumstances in connection with it, by which means a more rapid progress is, for a time, made."

SIR JOHN HERSCHEL.

ESSAY IV.[1]

THE PRINCIPLE OF HOMŒOPATHY.

> "Experience shows many means to be conducive and necessary to accomplish ends, which means, before experience, we should have thought, would have had even a contrary tendency."
> BISHOP BUTLER, *Analogy*.

"TRIAL," says Sir William Blackstone, "is the examination of the matter of fact in issue; of which there are many different species, according to the difference of the subject or thing to be tried. . . . . . This being the one invariable principle pursued, that as well the best method of trial, as the best evidence upon that trial, which the nature of the case affords, and no other, shall be admitted."

"Evidence," says the same authority, "signifies that which demonstrates, makes clear, or ascertains the truth of the very fact or point in issue, either on the one side or on the other; and no evidence ought to be admitted to any other point."

The laws of nature are *general*[2] facts ascertained to be so by inference or induction from a great multitude of *particular* facts. They are discovered, and their truth proved and maintained, by examining them as matters of fact. They are tried by the best method, and on the best evidence which the nature of the case admits.

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[1] First published in 1851.

[2] *i.e.*, universal—universally applicable to the particular facts.

It is the distinguished prerogative of a few individuals to discover them, but when once announced they are open to the senses and understanding of all men; they are put to the test of daily experiment and observation, and, were they not true, the facts which contradict them would not fail to be speedily discovered.

Every department of nature which has hitherto been successfully studied, so as to constitute it a science, has been founded upon one or more of these general facts or laws of nature. They are the pole star around which all the minor facts harmoniously turn. For example—

The law of *specific gravity*, or the relative weight of bodies, was discovered by Archimedes, on the occasion of plunging himself into a bath, and, as is familiarly known, so great was his delight that he ran about in an ecstacy, crying out, "I have found it—I have found it!" It consists of two facts: 1st.—*When a solid body is plunged into a liquid, it displaces an amount of liquid equal in bulk to its own bulk.* 2ndly.—*The solid body so plunged into a liquid, loses in its weight an amount exactly equal to the weight of the liquid which it has displaced.*

The law which is the basis of mechanics was discovered by Galileo;—*The less force equals the greater by moving through more space in the same time.*

The law of gravitation, upon which astronomy is founded, was discovered by Newton;—*All bodies attract each other directly as the mass, and inversely as the square of the distance.* This is commonly regarded as a mathematical demonstration, but it rests, in reality, upon careful experiments and accurate observation,—like the others, it is a fact proved, when put upon its appropriate mode of trial, by satisfactory evidence.

The law which is the foundation of the science of hydrostatics, and which has lately been so beautifully applied to a very useful practical purpose in the Bramah press, was discovered by the successive experiments of the three great men just mentioned, Archimedes, Galileo, and Newton. It may be thus expressed;—*In a mass of liquid each particle presses equally in all directions.*

The laws of Kepler, as they are called from their discoverer, which are three important general facts in astronomy.—1st—*The orbits of the planets are ellipses, with the sun in one of the foci.* 2nd—*The planets move over equal areas in equal times.* 3rd—*The squares of the times of revolution of any two planets are to each other, in the same proportion as the cubes of their mean distances from the sun.* "Of all the laws," says Sir John Herschel, "to which induction from pure observation has ever conducted man, *this third law of Kepler* may justly be regarded as the most remarkable, and the most pregnant with important consequences."

The fact in physiology that all the higher animals are furnished with a heart and blood-vessels, through which a *double circulation of the blood is unceasingly carried on, first through the lungs, and afterwards through the rest of the body;* this was the discovery of our illustrious Harvey, who for his pains was set down as crazy, and lost nearly all his practice.

The law for the knowledge of which we are indebted to the indefatigable labours of Richter and Dalton, and which has given rise to the modern science of chemistry;—*Elementary or simple bodies combine with each other, to form compound bodies, in definite or fixed proportions.*

The law of storms, ascertained by Col. Reid, which is one of the most recent of these valuable discoveries; —*They move in a circle.*

All these, and other similar truths, are *general facts*, which have been put upon their trial, and have stood the test. They have been supported by sufficient evidence suited to the nature of each case. Before they were known, the departments to which they severally belong were characterised by blunders and guesswork, into which they have introduced method and certainty.

The practical value of this kind of knowledge, may in part be learned by comparing the present condition of the arts with that previous to the discovery of these laws. Had the Romans known the law which regulates the flow of liquids, they would have been spared the vast labour of erecting those magnificent aqueducts for the supply of their cities with water, whose ruins so greatly excite our surprise and admiration at the present day. Our navigation hangs upon the faithfulness of the magnetised bar in turning towards the north; our steam engine depends upon the elasticity of vapour; our railways on the laws of friction; our instantaneous communication at any distance on the influence which a current of electricity exerts over a magnetic needle,—that beautiful discovery of Oersted. For nearly all our modern comforts, for nearly everything which distinguishes the present from preceding ages, we are indebted to the discovery of such natural truths as these.

Many departments of human knowledge are now in possession of such principles, and the consequence of having them for their foundation is unanimity of sentiment among the cultivators of the science, and the continual and satisfactory progress of their pursuits. The want of such a foundation may be certainly concluded, with regard to any subject upon which there is great diversity of opinion, many hypothetical speculations, and no improvement or advance toward a successful issue.

Thus much has been said by way of introduction, that the meaning of the expressions, law of nature, general fact, or principle, may be clearly understood; that the high value of such knowledge may be appreciated; and that the importance of ascertaining whether the art of healing be furnished with such a foundation or not, may be strongly felt.

With these preliminary explanations we may now proceed to examine the actual condition of medicine.

The efforts made to relieve diseases have been, hitherto, either superstitious, or theoretical, or empirical.

Of *superstitious* practices many examples might be given. Only two shall be mentioned. In China and Japan the Ermites profess to heal the greater number of complaints by depositing before their idols a description of the disease in peculiar characters, and afterwards making up the paper containing it into pills, which they give the patient to take. The "sympathetic powder," of Sir Kenelme Digby, was very famous for a long period. This powder healed all manner of wounds by being applied to the *weapon* by which the wound had been inflicted. Our poets and imaginative writers often allude to this. Sir Walter Scott says, in the 'Lay of the Last Minstrel'—

> "But she has ta'en the broken lance,
> And washed it from the clotted gore,
> And salved the splinter o'er and o'er.
> William of Deloraine in trance,
> Whene'er she turned it round and round,
> Twisted as if she galled his wound.
> Then to her maidens she did say
> That he should be whole man and sound."[1]
> Canto III, St. 23.

The *theoretical* method has always been extensively practised. Diseases in the days of Hippocrates were hot or cold, moist or dry. Remedies of course were the same; a hot remedy was to be applied to a cold disease, a moist one to a dry, and *vice versâ*. Hence the favorite maxim of Galen, "contraria contrariis curantur," diseases are to be treated with contraries.

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[1] In Sir Kenelme Digby's book ("A discourse touching the cure of wounds by the *powder of sympathy*," 1658) he protests against its being thought that there are "any effects of charm or magic herein;" or any "need to have recourse to a demon or angel in such difficulties;" and affirms that the effects are produced by natural causes. But at page 148 he distinctly declares that "the same cure is performed by applying the remedy to the blade of a sword which hath wounded a person." (1873.)

Of late we have had excessive and diminished irritability to be treated respectively with calmers and stimulants, (Brown). Spasm of the extreme vessels to be cured by so-called anti-spasmodics, (Cullen). All diseases attributed to local inflammation, the universal remedy being local depletion, (Broussais). Such, and numberless other hypotheses have been imagined by ingenious men in their closets; have been eloquently propounded in their lecture-rooms; have been greedily embraced by numerous classes of admiring followers; and have, each in succession, been supplanted by the next invention, and sunk into contempt and oblivion.

To the *empirical* treatment of diseases some have thus, in all ages, been driven. Sensible of the futility and uselessness of hypotheses at the bedside of their patients, these practitioners have sought to be guided by experience only; though, in spite of this conviction and intention, they have continued to speculate upon the nature and causes of disease. These constitute the eminent physicians and surgeons of the present day. They reject all idea of a general principle for their guidance in the administration of remedies; they even deny its possibility. The head of our public bodies, the present president of the royal college of physicians (Dr. Paris), asserted no long time ago, in a public lecture, that medicine is "incapable of generalization."[1] The consequence of this unsettled condition is *the utmost confusion and contradiction, and great want of success in the present practice of physic.* This is admitted by nearly every writer of credit. Dr. Adams, the learned translator of Hippocrates, says, "one cannot think of the change in professional opinions since the days of John Hunter (at the close of the last century), *without the most painful feeling of distrust in all modes of treatment.*" Again, the same writer observes, "Now-a-days we have abandoned all general rules of practice, and profess to be guided solely by experience; but how variable and uncertain are its results! I myself, albeit but verging towards the decline of life, can well remember the time when a physician would have run the risk of being *indicted for culpable homicide if he had ventured to bleed a patient in common fever.* About twenty-five years ago, venesection in fever, and in almost every disease, was the established order of the day; and now what shall I state as the general practice that has been sanctioned by the experience of the present generation? *I can scarcely say*, so variable has the practice in fever, and in many other diseases, become of late years."[1] How like the complaint made by Hippocrates himself, twenty-two centuries ago! "The whole art is exposed to much censure from the vulgar, who fancy that really there is no such science as medicine, since, even in acute diseases, practitioners differ so much among themselves, that *those things which one administers, as thinking them the best that can be given, another holds to be bad.*" Galen quotes and confirms this, and thus it is confessed, both by ancient and modern authorities, that the science of medicine is little better than a mass of contradiction and confusion. A remedy is found, perhaps accidentally, to do good, and it is therefore given in other cases which appear to be like the one it has cured. This plan sometimes succeeds, but it also often fails, and always when it fails, and often when it succeeds, *the constitution is injured by the large doses and other severe treatment.*

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[1] Paris's 'Pharmacologia.' Introduction, p. 4.

Such has hitherto been the miserable condition of the practice of physic. In successive ages, reflecting men have mourned over this condition, and earnestly desired to discover some general and guiding fact upon which the art of healing might be based.

How remarkable are these words of Sydenham, justly styled the Father of English medicine: "The method whereby, in my opinion, the art of medicine may be advanced, turns chiefly upon what follows, viz., that there must be some fixed, definite, and consummate method of healing, of which the commonweal may have the advantage. By *fixed, definite,* and *consummate,* I mean a line of practice which has been based and built upon a sufficient number of experiments, and has in that manner been proved competent to the cure of this or that disease."[1]

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[1] Adams, 'Translation of Hippocrates,' vol. I. pp. 278, 280, 307. Sydenham Society's Edition.

At different epochs, and by various writers, from Democritus and Hippocrates downwards, something like the principle "similia similibus curantur"—likes are to be treated with likes—has been feebly enunciated; but we are indebted to Hahnemann, a German of the last generation, for so powerfully and perseveringly announcing it as to have gained for it the attention of mankind.

This proposition has now been put forth in such a strong and urgent manner, as to demand an investigation by every medical man who is conscientiously desirous of doing all the good he can to his suffering fellow-creatures. It does not seem to have anything in itself which must necessarily excite disgust or opposition; it is no theory of disease; it does not pretend to explain the mode of action of medicines; it professes to be a *fact* upon which a method of cure may be founded. It suggests that *the true properties of drugs can be discovered only by experiments on the healthy body of man, and that whatever symptoms of disease are thus produced are the true guides to the use of the remedy;* for that it must be given only in such natural diseases as are attended with symptoms like those produced by the drug in the healthy person.

This then is "*the fact in issue,*" to be put upon its trial. And we are to remember the legal principle, "that as well the best method of trial, as the best evidence upon that trial, which the nature of the case affords, and no other, shall be admitted."

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[1] 'Works of Sydenham,' vol. 1, p. 17. Sydenham Society's edition.

"Likes are to be treated with likes!" This is the assertion. The only trial upon which a statement such as this can be fairly put, is the trial by experiment. This must be obvious. To argue about it would be foolish, and a waste of time. To experiment upon it is rational. I propose, therefore, now to give the evidence adduced upon such a trial in my own hands. It has occupied my attention some years; it has been made in candour and good faith, and with, I think, all the conditions requisite for drawing a legitimate conclusion.

It has been made in many cases without the knowledge of the patient, and, therefore, to the exclusion of any possible influence from the imagination.

It has been made under a much greater variety of circumstances, and upon patients in more diversified ranks, ages, and constitutions, than can meet together in the wards of an hospital.

It has been made, very much, with medicines whose injurious or poisonous symptoms, or effects in health, were previously well known to me; these poisonous symptoms or *effects in health* having been learned without any reference to the medicinal or *curative effects* of the same drug in disease.

It has been made with doses of all kinds, not only with the infinitesimal one, now commonly adopted by homœopathists, but with palpable and ponderable quantities of the substances so tried.

And lastly, I have had the advantage of comparing the results of the new method so obtained, with those in my own hands under the old practice during a professional career of more than a quarter of a century.

Perhaps it will surprise some of my readers to hear of "ponderable" doses in homœopathy, but when the investigation of the truth of the *principle* of homœopathy is being made, these are the first materials for experiment. If twenty grains of ipecacuanha will make a strong man sick, and if the twentieth part of a grain will cure a sick man of his vomiting, we have two cases which can be fairly compared;—we know that we are dealing with the same physical agent.

But though large doses must, in the first instance, be tried, the investigation *cannot end with them*. For if, as is unquestionably true, an inconceivably small quantity, or, in other words, an infinitesimal dose of this substance, ipecacuanha, can produce the symptoms of catarrh, or of asthma, so severe as to threaten the loss of life;[1] and if similarly small doses of the same drug can cure similar and equally violent symptoms, when they have arisen from other causes, the trial must be carried into these much ridiculed but highly interesting regions. Thus the inquiry into the operation of this principle "similia similibus curantur,"—likes are to be treated with likes—can be pursued to a much greater extent than at first sight would have been thought possible. We must follow where nature leads if we would know her truths. If minute particles of matter can act upon the body so as to injure health, it is possible that similarly minute particles of matter may also act upon the body so as to restore its healthy state, and if this be so, the two actions may be compared with each other. On these, as on all similar subjects of human knowledge, nature is to be interrogated by experiments, and the answers returned, if carefully observed, and honestly recorded, are the evidence which "makes clear or ascertains the truth of the very fact or point in issue, either on one side or the other."

What are medicines? They are poisons. All substances may be divided, with reference to their action on the human body, into those which are nutritious, and those which are more or less noxious,—into food and poison. It is the latter class which furnishes us with medicines. These act injuriously in health—remedially in disease; this is homœopathy in the general; the following cases will show that homœopathy is also true when carried into particulars.

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[1] For proofs of this statement see Essay IX.

CASES.

POISONS FROM THE MINERAL KINGDOM.

ANTIMONY—INFLAMMATION.

It is known to medical men that *tartarised Antimony*, when taken in poisonous doses, produces inflammation of the lungs. It has been given in large doses by allopathic physicians as a remedy in similar inflammations.

I have seen an infant suffering from an attack of inflammation so severe as to threaten a very speedy termination in paralysis of the lungs and death, recover in a few hours, while having administered to it small doses of this preparation of antimony.

ARSENIC—INFLAMMATION—ERUPTIONS.

The prominent mischief which a few grains of *Arsenic* produces is inflammation of the stomach and bowels. I have twice tried this substance as a remedy in acute inflammation of these organs with success.

Arsenic also so often produces eruptions on the skin that they have received a name;—*eczema arsenicale.* Arsenic is often given as a remedy for similar eruptions by practitioners of the old school. The preparation in the pharmacopœia is called "solution of arsenite of potash;" it is given in doses of from eight drops to half a drachm, which latter quantity contains about a quarter of a grain of arsenic. Injurious effects have often been occasioned by these medicinal doses. Four grains, or less, being sufficient to destroy life.[1] I have seen great benefit from this mineral in obstinate affections of the skin, when given in such small doses as would not be at all likely to produce unpleasant consequences in any constitution.

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[1] Taylor's 'Medical Jurisprudence.'

COPPER—CRAMP.

Copper produces "pain in the abdomen with diarrhœa; and in aggravated cases, spasms of the extremities."[1]

I have seen copper quickly relieve cramp, and even the most violent muscular spasms.

CORROSIVE SUBLIMATE—DYSENTERY.

That this poisonous substance produces slimy, green, and bloody evacuations from the bowels, exactly resembling dysentery, a disease having similar symptoms, but which has arisen from other causes, is a fact but too well known. I have given various doses of it, uncombined with opium, in dysentery, with the most satisfactory results ;—with better success than that which attended my former treatment. One striking case is given in Essay I. I could add others here.

LEAD—CONSTIPATION—PARALYSIS.

The leading symptom produced by *Lead*, when acting as a poison, is constipation.[2]

I have repeatedly seen chronic constipation removed by this substance.

Another well-known effect of lead is numbness and paralysis ; I have seen it cure a case of this kind.

MERCURY—MUMPS—SORE THROAT—ERUPTIONS.

It is well known that one of the first effects of *Mercury* is to act upon the salivary glands ; if therefore there be any truth in the law of "similia," mercury ought to be a cure for mumps. I have had a great many opportunities of putting the law in question to this test, and can with truth affirm that in every instance the result was satisfactory. I gave nothing but mercury in various doses, both ponderable and imponderable, that is, both in appreciable and in infinitesimal doses, and in every case the cure was rapid and perfect. It must be understood that not the slightest local application of any kind was permitted in any one of the cases. The patients were singularly preserved from pain, and there were seldom any of the sympathetic affections which not unusually accompany this complaint.[1]

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[1] Taylor's 'Medical Jurisprudence.'

[2] Ibid.

It is equally well known to medical men that mercury produces affections of the throat, bones, and skin, so like the diseases of those parts arising from other causes, that they often find it impossible to distinguish the one from the other, or to decide to which to attribute the symptoms. What could be more striking homœopathicity than this? — There shall be two patients standing side by side, with ulcerated throats, swellings on the bones, and eruptions on the skin, in the one caused by mercury, and in the other not, and the most experienced surgeon shall be puzzled to say which is the mercurial case and which is not. Mercury given to these cases[2] would aggravate the one whose symptoms were owing to mercury, while it would almost certainly cure the other.

PHOSPHORUS—INFLAMMATION.

Two grains, and in another case, one grain and a half of *Phosphorus* have been known to kill, by causing intense inflammation of the stomach and bowels.

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[1] Mercury acts upon the salivary organs, which are the seat of mumps; but the kind of action is not exactly the same. It is probable, therefore, that a still more efficacious remedy for mumps may be found in some drug which has not only a local action on the same organ, but which has also a kind of action more exactly the same. (1873.)

[2] That is, in appreciable doses. (1873.)

In May last (1851) I was requested to visit the following case (in Coventry), in which the most severe inflammation of these organs existed. A lady of about fifty years old was seized with pain in the stomach on the Friday evening, on Saturday she took various strong doses of medicines, which caused vomiting and purging, but which gave no relief; the pain continued to increase, and on Sunday night, when I saw her for the first time, her family thought she was dying;—there was great pain and tenderness on pressure, a quick and small pulse, a very white tongue, with some delirium, an anxious and sunken countenance, and short breathing; she had been entirely deprived of sleep by pain from the commencement of the attack. I gave a small dose of phosphorus, and in about a minute she felt easier:—in a quarter of an hour the dose was repeated and she immediately fell asleep for two hours and a half; after a third and fourth dose she slept again; in a few days was convalescent, and in a fortnight well.

Among other inflammations produced by phosphorus when it has been taken in poisonous doses, is inflammation of the lungs. I have treated two most dangerous attacks of pleuro-pneumonia with this substance; one a young man, aged about 18, in March, 1851, who had been ill some days before I saw him, and who continued to get worse for three days until phosphorus was given. He had severe pain, respirations from 40 to 48 in the minute, pulse 120, cough frequent, expectoration tinged with blood, and great prostration, with the stethoscopic signs of inflammation within the chest. In less than a fortnight this young man was cured, and he continues still (July, 1853) perfectly well,—no trace of mischief remaining in his chest. He very nearly died, and yet the treatment was ultimately successful, *not only in affording palliative relief but in effecting a radical cure.* I feel a moral certainty that had he been treated with bleeding and blistering, purgatives, salines and antimonials, he would have died, if not immediately, (which most probably would have been the case,) at any rate from the chronic disease which by this method would have been left behind. The time seemed long during which my anxiety continued, but after all, it did not extend to a fortnight, and it must not be forgotten that the disease had been allowed to gather strength for nearly a week before anything was done to check it. We are justified by the results in considering this case as a striking proof of the efficacy of the new remedies in such an acute and highly dangerous disease as pneumonia is universally considered.

The other case, also a young man, aged about 16, of a consumptive family, was still more striking; it occurred to me in March, 1852. All the symptoms of violent pleuro-pneumonia were fully and very rapidly developed, and for some hours he was in great danger. Almost the only remedy administered was phosphorus, in small doses, and before the end of the week he was quite convalescent;—the physical (stethoscopic) signs of disease disappeared in about another fortnight, and he also has continued ever since in perfect health. Had this young man been reduced by what is called "active treatment," his constitution would have been broken down, and he would have followed his sister, through a painful course of suffering, to an early grave.

I have also seen the most strikingly beneficial results from phosphorus in chronic diseases of the lungs, as well as in these acute cases.

SULPHUR—ERUPTIONS.

Those who visit Harrogate, and other places where the waters contain *Sulphur*, are well aware that eruptions of a very irritating character are not unfrequently produced by drinking the waters. Sulphur is notoriously a remedy for similar eruptions.

I have seen it, when given in small doses, both produce and cure such affections of the skin. No one dreams that it produces the itch insect.

POISONS FROM THE VEGETABLE KINGDOM.

ACONITE—CROUP.

Symptoms similar to those of croup are among the ill effects of *Aconite* or *Monk's Hood*.

The new treatment has been tried by me in several cases of croup with very remarkable success.

BELLADONNA—HEAD ACHE—SORE THROAT.

Among the poisonous effects of the *Deadly Nightshade* are heat and fever, difficulty of swallowing and speaking, feeling of constriction about the throat, swelling and redness of the face and other parts of the skin, dilatation of the pupils, obscurity of vision, suffusion of the eyes, singing in the ears, confusion of the head, giddiness, delirium, convulsions, and stupor or lethargy.

In a variety of cases, both slight and severe, of affections similar in their symptoms to these effects, as quinsy, ophthalmia, headache, cases threatening to end in water in the brain, I have tested the remedial powers of belladonna, and have not often been disappointed. In two cases of threatening hydrocephalus,—children, in different families, a child in each family having previously died of water in the head—when I was first consulted, it was feared that these would die in the same manner, but they both speedily recovered. During the spring of this year, (1853,) I have had several opportunities of giving belladonna, in scarlet fever, and with very satisfactory results. It is well known that Hahnemann was the first to point it out both as a remedy and a preservative from scarlet fever: this he had been led to discover by the resemblance which he observed between the poisonous effects of the plant, and the symptoms of that disease. The following extract is given from the 'London Medical and Physical Journal' for September, 1824, (the most respectable allopathic journal of that period,) both because it shows the admission of this discovery, and also because it exhibits a better feeling towards Hahnemann than is at present met with among my allopathic brethren.

"*Belladonna a preventive of Scarlet Fever.*—It has been long known that Dr. Hahnemann, of Leipsic, has asserted the above fact; but since the year 1818, several practitioners in the north of Europe have repeated these experiments, *and they find them founded in truth.* The first of these, Dr. Brendt, of Custrin, affirms that all who employed this remedy escaped the infection; and his account is corroborated by Dr. Musbeck, of Demmin, in Western Pomerania, who says he has used it for seven years, and with equal success; he administered it to all those who dwelt in the houses where scarlet fever prevailed, continuing its use until desquamation of the cuticle had taken place in those attacked. Dr. Dusterbourg, of Warbourg, has also published an account of a series of experiments confirming these statements; and several subsequent memoirs have appeared all equally corroborative of this virtue in belladonna."

Medical men of the old school are now beginning to assert that belladonna *is no preservative* against scarlet fever, and that this "shows the utter fallacy of their (the homœopathists') reasoning, and the sandy foundation on which they build their views." But it will not fail to be remarked by impartial observers that such assertions come from a quarter now too prejudiced to be relied upon, and also that, even supposing them to be correct, they prove nothing against homœopathy, inasmuch as it is not a system of *prevention,* but a method of *cure.* The weight of evidence is still in favour of the preventive powers of belladonna, but its failure will bring no "fallacy" into the "reasoning," nor "sand" into the "foundation" of homœopathy.

BRYONIA—RHEUMATISM.

White Bryony is one of the ancient remedies which, like hellebore, has been discarded from modern practice on account of the violence of its action when given in the usual large doses. Among other symptoms, it produces those resembling rheumatism. I have myself twice brought on these symptoms with bryony. It is a very valuable remedy in similar cases.

Rheumatism is generally accompanied by an acid state of the secretions. If litmus paper be applied to the tongue, the moist skin, &c., while a patient is suffering from rheumatic pain, it will commonly be reddened. Knowing this, I have been in the habit for some time of treating rheumatism with alkalies, both internally and externally, and with so much better success that when formerly bleeding, &c., were had recourse to, I was reluctant to give them up. A case occurred in November, 1850, which first induced me to do so. A boy about 12 years old, had a very severe attack of rheumatic fever. The usual method was pursued at first, but being greatly disappointed with it, I felt justified in substituting the new remedies, and prescribed a dose of bryony every two hours. The next day the little patient was relieved in every way; the pulse had fallen from 120 to 82; the pains, which had been very bad in the wrist, elbows, back, and abdomen, were gone; as were also the swelling and redness, and the following day he was convalescent. His father, a medical man of distinction, now arrived from a distance, together with his mother. All that had been done was detailed to him, and, though no homœopathist, he gave me hearty thanks for the benefit his boy had got from the treatment. In a few days he was sufficiently recovered to be taken home by his mother.

COLOCYNTH—COLIC.

The takers of violent purgatives, such as Morison's pills, know the effects of *Colocynth*.

I have found it, in small doses, relieve similar pains.

KREASOTE—VOMITING.

Kreasote as a poison produces vomiting and other derangements of the stomach, together with a tendency in the fluids of the body to decomposition, and in the solids to disorganisation. I have repeatedly seen small doses of kreasote act beneficially in similar conditions of disease. The following case, which occurred some years ago, is given, because it illustrates a remark which I have often lately made, that, on reflection, I find that much of my former successful practice was, without my being aware of it, homœopathic in principle. The notes were written by an intelligent assistant at the time:—

"Miss A— H—, æt. 36, has been subject to frequent attacks of erysipelas, accompanied by great sickness. The last attack was during last summer, from which she recovered about three months since. On Saturday, December, 17th, 1836, she was attacked with vomiting and purging, accompained by an acute pain in the region of the liver. Mr. H., who saw her, gave her calomel and opium, and applied a blister to the seat of the pain, but without relief; he also gave her effervescing salines with hydrocyanic acid, and applied a mustard poultice to the stomach, with slight but temporary benefit. On Thursday, December 22d, the vomiting being more violent than ever, neither food nor medicine having remained on the stomach since the Saturday previous, Mr. Sharp, along with Dr. Hobson of Leeds, saw her, and found her in the following state: Vomiting excessive; pain in the abdomen; pain and tendernesss along the whole course of the spine, (to which Mr. Sharp applied a mustard poultice with complete relief).[1] Dr. H. thinking that the mesenteric glands were affected, prescribed Argent. Nitrat. in small doses, combined with Ext. Opii Aquos., and on the following day changed the Argent. Nitr. for Cupri Sulph., but the stomach rejected everything. A large blister was also applied to the abdomen, but matters grew worse, and the patient, feeling that she must inevitably die, refused to take any more medicine. On the 26th, Mr. Sharp suggested a trial of kreasote. It was procured, and administered in some gruel without her knowledge, one or two drops being put into a small basin of gruel, and a spoonful given at a time. She has never vomited since. She continued to take one drop daily for a short time, and then discontinued it. She took small quantities of light nourishment after the 26th, till her health was re-established, and she has since been quite free from similar attacks."

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[1] This was done before the arrival of Dr. Hobson.

IPECACUANHA—VOMITING—ASTHMA—HEMORRHAGE.

Every one knows that *Ipecacuanha* excites vomiting. Among my earliest trials were several cases of vomiting in children, arising from the ordinary causes of indigestion. These were all very speedily cured by a few doses, more or less minute, of the tincture of ipecacuanha. Among these was a delicate child, about ten years of age, who had been vomiting inveterately for a week, so that everything which had been given her during that time, whether as food or medicine, had been rejected. She was, as may be supposed, much exhausted. She did not vomit once after the first dose of ipecacuanha, and very rapidly recovered her usual health and strength.

This result surprised and gratified me much, it has been confirmed by numerous instances, nearly equally striking, which have since occurred to me.

The distressing nausea and vomiting from which females frequently suffer, and which so often baffle the medical man's best efforts, have on several occasions been speedily removed by the same remedy. In one case the patient had suffered for two months from continual sickness, vomiting bile every morning, and her food more or less after every meal. She had had allopathic medical treatment without benefit. A few doses of ipecacuanha put a complete stop to this distressing state of things.

Ipecacuanha, in infinitesimal doses, as will be amply shown in Essay IX, produces asthma.

I have seen it, in similar doses, relieve, in the most effectual manner, severe fits of asthma.

Ipecacuanha also causes bleeding from different parts of the body in persons previously in health. Some very interesting cases of severe hemorrhage, cured by ipecacuanha, are detailed in vol. I of Mr. Braithwaite's "Retrospect;" where, however, the beneficial effects are wrongfully attributed to the sickness produced by the large doses which were given.

I have had some opportunities of observing that ipecacuanha, in such small doses as did not produce any sickness, could arrest hemorrhage even when life was fast ebbing away.

NUX VOMICA—SPASMODIC PAINS.

In instances of suffering from abdominal spasmodic pains the benefit derived from *Nux Vomica* has been most obvious and gratifying. When the attack was recent it was almost immediately removed. In a case of long standing, where the countenance betrayed the existence of organic disease, and in which the pain was so severe, and had continued, when the patient was first seen, so many hours that a fatal result seemed not improbable, the prostration of strength being very great, a perseverance in the remedy at short intervals for a few hours gave complete relief. This is now more than two years ago, and the man has continued since comparatively free from the attacks.

Nux Vomica, when taken in poisonous doses, produces similar symptoms.

OPIUM—CONSTIPATION—APOPLEXY—DELIRIUM TREMENS.

It is notorious that *Opium* constipates the bowels; I have found it in small doses relieve constipation. Excessive doses of opium produce in some persons coma or apoplexy; I have seen it of use in that alarming state. In other persons it produces an excited state resembling delirium tremens; it is the best remedy we know for that fearful condition when produced by intoxicating drinks.

RHUBARB—SENNA—DIARRHŒA.

As ipecacuanha is remarkably useful in many kinds of vomiting, so *Rhubarb*, *Senna*, and other *purgatives* are not less so in the kinds of diarrhœa which resemble those produced by large doses of these drugs. I have repeatedly tried them in varying doses, and have obtained the relief looked for, both in children and adults.

VERATRUM—CHOLERA.

It is a fact familiar to medical men that *White Hellebore* was the favorite purgative with Hippocrates, and that it has fallen into disuse from its violent effects. Recourse has been had to it in two extreme cases of cholera, and in other slighter ones, with complete success. In the first case, which occurred in the summer of 1851, collapse had succeeded the most violent cramps and other usual symptoms. Two or three doses of camphor, dissolved in spirits of wine, were given first, but with little or no benefit. The acetate of copper and veratrum, alternately, effected a cure in twenty-four hours. The second case, which occurred in July, 1852, was not so severe as the former, there being no cramp. Camphor relieved the extreme exhaustion, and veratrum accomplished the rest. There was not a single effort to vomit, nor a single evacuation, after the first dose, though both these distressing symptoms *had been almost incessant for thirty hours previously*.

POISONS FROM THE ANIMAL KINGDOM.

CANTHARIDES—STRANGURY.

That *Cantharides*, even when only applied externally in the form of a blister, frequently produce strangury and other complaints of the bladder scarcely any one is ignorant. That they are the most efficacious remedy for similar complaints arising from other causes, I have had the most satisfactory evidence.

Reference has been thus briefly made to the disease-producing and the disease-healing powers of twenty of the *best known* substances taken from the three kingdoms in nature: antimony, arsenic, copper, corrosive sublimate, lead, mercury, phosphorus, and sulphur; aconite, belladonna, bryony, colocynth, kreasote, ipecacuanha, nux vomica, opium, rhubarb, senna, and veratrum; cantharides. Many other remedies might have been noticed in a similar manner, but it would be tedious. A large number have been tried by me, as well in great as in small doses. The cases have occurred "in my own hands, and under my own eyes;" the trial has been conducted under the favorable conditions mentioned already in this Essay, and the verdict is, that my own mind is convinced that there is an accordance between the two great powers of these poisonous substances,—their power of producing disease in the human body, when given in certain comparatively large doses, and their power of removing *similar* diseases, arising from other causes, when given in small doses. I state the fact, and enter into no theoretical methods of accounting for it. I declare myself satisfied with the proofs I have witnessed of the truth of the principle, and feel bound to give my individual testimony that the administration of remedies under the guidance of this principle is a much more successful mode of treating disease than any with which I was previously acquainted.

Such is a small portion of my trial of homœopathy. It conveys but an inadequate idea of the amount of industry and anxiety which have been bestowed upon the inquiry. The cases and observations might be greatly extended, but I think without further benefit. Those already given exhibit the *kind* of evidence capable of being afforded, and which is the only kind the investigation admits of. The *quantity* necessary to produce conviction in different minds will vary according to their several constitutions, but it will surely be considered the height of prejudice and bigotry in any one to reject altogether, and *in limine*, such evidence as this, or to refuse to investigate the subject for himself.

To the objection that these examples are, after all, very few and insufficient to establish a general principle, it is replied, first, that in the investigation of a law of nature, like the one we are inquiring after, it may be almost said

"Ex uno disce omnes,"

from the behaviour of one or two substances carefully experimented upon, the conduct of all others may be inferred. The popular story of Sir Isaac Newton and the falling apple, whether literally true or not, is a plain illustration, and conveys an important lesson. And secondly, nearly every article of the Materia Medica has now been tested by one and another, and the further the examination is carried, the more certain does the conclusion appear.

The evidence, therefore, justifies the conclusion that the desire so fervently expressed by Sydenham has been accomplished; and proves that this principle is a "*fixed*, *definite*, and *consummate*" rule to guide us in our endeavours to cure or alleviate the maladies of mankind.[1]

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[1] It will be believed that to these might be added a very large number of interesting cases, which have been observed in an extensive and successful practice, during the twenty years and more since 1851. The leisure necessary to put them on record is not at command, but it may be stated that the first evidence is abundantly confirmed by the general testimony of this enlarged experience. (1873.)

ESSAY V.

THE PRINCIPLE OF HOMŒOPATHY,

(*CONTINUED.*)

"I am so far from blaming a rational theory in physic that I think it the *basis* of all just and regular practice; but then it should be as Hippocrates adviseth *κατὰ φῦσιν ϑεωρία* (a theory according to nature). If ever physic is to be improved, ***it must be in such a manner***, and not by chimerical hypotheses, nor rash unwarrantable quackery."

JOHN HUXHAM.

ESSAY V.[1]

THE PRINCIPLE OF HOMŒOPATHY,

(CONTINUED.)

> "The invention of the mariner's needle which *giveth the direction*, is of no less benefit for navigation than the invention of the sails which give the motion."
>
> LORD BACON.

IT has been well said "there are truths which some men despise, because they will not examine them, and which they will not examine because they despise them." Homœopathy is one of these. Men of large scientific attainments, and indefatigable in adding to their store of knowledge, think it foolish because they are ignorant of its truth, and this notion of its folly hinders them from becoming acquainted with the evidences in its favour.

Nevertheless, homœopathy embraces scientific and practical truth of so much value, that, were it known, it would interest alike the man of science, and the man of practical utility. The truth, known only as men know other truths, imperfectly, may be mixed up with numerous errors, but it is wiser to endeavour to separate what is true from what is false than to reject both.

The jealousy of power may indeed attempt to crush the rising influence of new truth. A Galileo may by force be constrained to read a reluctant recantation, but "the earth moves notwithstanding." Such is the vitality of truth, that when once discovered, it seems never afterwards to die. If, therefore, homœopathy be true, we may confidently expect that it will survive the opposition to which it is exposed. If it be false, let us have the proof. It is not to be condemned as some people would condemn a suspected felon, without judge or jury.

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[1] First published in 1853.

But, whatever course the opponents of homœopathy may pursue, it is plainly the duty and the wisdom of those who have risked their credit and success by embracing it, to give it a most searching inquiry; that what there is of truth in it may be preserved for the benefit of mankind, and that what there may be of error intermingled with that truth may be separated from it. *Truth*,—beautiful truth, must be to us what *power* was to the Romans. In the words of Livy,—

> "Apud Romanos *vis* imperii valet, *inania transmittuntur*."

Among the Romans, he says, the power, the energy of empire was valued, the pompous trappings and parade were handed over to others—to the monarchs of the east.

Let us then once more examine the foundation of our science, and in doing so we will consider—

I. Whether there be any *probability* that a law, rule, or principle exists in nature for our guidance in the treatment of disease.

II. The *law* of homœopathy.

III. The *limits* of this law.

IV. What those cases are which are *beyond the limits* of the law, and how they are to be treated.

I. Whether there be any *probability* that a law, rule, or principle exists in nature for our guidance in the treatment of disease.

It is held by some that such a law is impossible. Among those who think thus, is the present official head of our profession—Dr. Paris, the president of the royal college of physicians in London.

"In tracing the history of the *Materia Medica* to its earliest periods," says Dr. Paris, "we shall find that its progress has been very slow and unequal, very unlike the steady and successive improvement which has attended other branches of natural knowledge; we shall perceive even that its advancement has been continually arrested, and often entirely subverted by the caprices, prejudices, superstition, and knavery of mankind; unlike too the other branches of science, it is *incapable of successful generalization*."[1] This extract from Dr. Paris proves, first, that, up to the present moment, no law, principle, or generalization has been acknowleded by the profession as a body. It proves, secondly, the wretched condition of the Matéria Medica, or art of healing, as exercised by legally qualified practitioners. It further admits that this art has not been improved and advanced as other branches of natural knowledge are confessed to have been advanced; leaving the inference to be drawn, that such wretched condition, and such want of improvement, have arisen from the absence of a principle or rule to improve by. Lastly, it asserts, *but it does not prove*, that medicine must for ever remain in this hopelessly unimproveable condition, for that it is *incapable* of such a principle! *Sad indeed,—if it be true.*

These are the sentiments of the leading living physician in London; let us now turn to the most distinguished living physician in the capital of Scotland.

Dr. Simpson [afterwards Sir James] says, "In medicine and surgery we have *many general facts* or *laws*, more or less correctly ascertained and established, and the art of medicine consists in the practical application of these laws to the relief and cure of the diseases of our patients. These laws are some of a higher, some of a lower type of generality. As examples of them we have, for instance, the law that various contagious diseases, more particularly eruptive fevers, seldom attack the same individual twice during life, and the practical application of this law in artificial inoculation with small-pox and cow-pox, has already saved millions of human lives. As a general law, cinchona has the power of arresting and curing diseases of an intermittent or periodic type, as intermittent fever or ague, intermittent neuralgia, &c. As a general law, the employment of opium arrests and cures irritative diarrhœa, iron cures chlorosis, &c. &c."[1]

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[1] Paris's 'Pharmacologia.' Introduction.

In the name of natural science I protest against such an abuse of its expressions as is here made. If its most valuable terms are to be applied in so vague a manner there is an end to all precision of either thought or language. If the term "general law" is to be understood as meaning nothing more than that things *generally happen so and so*, the further discussion of the subject will be vain and unprofitable.

Dr. Simpson, endeavouring to extricate himself from this confusion of ideas, and misapplication of words, goes on to say, "But the law laid down by Hahnemann, and which forms the groundwork of homœopathy, viz. —*similia similibus curantur*,—is regarded by him and his disciples, not in the light of a general law, but as a *universal* and infallible law in therapeutics." Here, it is evident, that the word *general* is made to mean the same as *generally*, as if they were connected as the words *frequent* and *frequently* may be; but a "general law" in this sense is a contradiction in terms; a "law generally but not always" is no law at all in nature. The word "general" when applied to a law of nature means the same as "universal." A natural law must be universally applicable *within its sphere of action*;— a *real* though not an *apparent* exception would destroy its claim to be received as a law. Homœopathists speak of their law as thus general or universal.

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[1] Simpson's 'Homœopathy, its Tenets and Tendencies,' pp. 2, 37.

But the confusion in Dr. Simpson's mind continues as he proceeds. "For one," he says, "I am most willing to admit, that if Hahnemann, or any man, could discover a single universal, infallible law in therapeutics, applicable to all diseases and all cases of diseases, it would constitute the greatest imaginable discovery in medicine. Many men have in the same way fancied that they have discovered a single infallible *universal remedy* for all diseases. Priesnitz thought his cold water was such. Morison averred that his pills were such, and so on."

How strange the confusion of thought in this sentence! What relation does the attempt to cure all diseases by a single remedy, as in the instance of hydropathy, bear to the attempt to discover, by philosophical inquiry and fair induction, a general fact or law of nature calculated to guide us in the application of all remedies? An uneducated but vigorous peasant might undertake the one, but only an accomplished physician could hope to effect the other. And how can Dr. Simpson place a laborious scientific inquiry, carried on openly in the face of Europe by Hahnemann, side by side with the advertisements about his secret pills and their infallible virtues by Morison? This evidences a lack either of discernment or of candour; if the former, it displays such a want of discrimination as entirely unfits him for the task he has undertaken; if the latter, it betrays him into such a misrepresentation of things as equally disqualifies him on another ground.

Dr. Simpson admits that the discovery of a general principle to guide us in the application of remedies in disease would be a *great* discovery; but he has no sympathy with those who are labouring to find out such an invaluable guide. He does not, indeed, say, with Dr. Paris, that the discovery is impossible, but he breathes no fervent aspiration that suffering humanity may receive such a boon. He does not engage in the search himself any more than Dr. Paris, nor has he a word of encouragement to induce others to engage in it. He expresses no gratitude to Hahnemann for his indefatigable exertions, nor regret that they should have been persevered in for so many years, as he thinks, in vain.

There is nothing enviable in a frame of mind like this,—so destitute of generous admiration of the struggles of an ardent spirit to obtain some light to illuminate his path in the conscientious discharge of his professional duties;—so devoid of ingenuous pity and brotherly regret while he thinks that those aspirations and exertions have ended in a failure!

But other men have had other views and feelings, and have come to a different conclusion. Sydenham, the father of British physicians, writes thus:—

"I conceive that the advancement of medicine lies in the following conditions,—

"There must be, in the first place, a history of the disease, in other words, a description that shall be at once graphic and natural. . . . .

"To draw a disease in gross is an easy matter. To describe it in its history, so as to escape the censure of the great Bacon is far more difficult. . . . .

"It is necessary, in describing any disease, to enumerate the peculiar and constant phenomena, apart from the accidental and adventitious ones; these last named being those that arise from the age or temperament of the patient, and from the different forms of medical treatment. It often happens that the character of the complaint varies with the nature of the remedies, and that symptoms may be referred *less to the disease than to the doctor*. . . . No botanist takes the bites of a caterpillar as a characteristic of a leaf of sage. . . . .

"The other method whereby, in my opinion, the art of medicine may be advanced, turns chiefly upon what follows, viz., that there must be some fixed, definite, and consummate *methodus medendi* (law or method of cure), of which the commonweal may have the advantage. By *fixed*, *definite*, and *consummate*, I mean a line of practice which has been based and built upon a sufficient number of experiments, and has in that manner been proved competent to the cure of diseases. I by no means am satisfied with the record of a few successful operations either of the doctor or the drug. I require that they be shown to *succeed universally under such and such circumstances*."[1]

Such are the earnest thoughts of Sydenham. It is true he looked for this "method of healing" in a direction in which success has not yet been attained. He hoped to find it in a *theory of disease*. "It is known," he says, "that the foundation and erection of a perfect and definite *methodus medendi* is a work of exceeding difficulty." In this direction two thousand years have been spent in unsuccessful efforts. Hahnemann turned to another quarter, and, as Dr. Scott has well explained, he found a *method* in a *theory of cure*.

Thus far authorities may be consulted on the question, whether there be any probability that a law of healing exists in nature. But authorities cannot give the answer; it is a question of *analogy*; and it can be answered only by a reference to what is found to be true in other departments of nature.

Now all who are acquainted with the history of natural and experimental philosophy are aware that real progress in natural knowledge is dependent upon the discovery of general facts or laws. A subject appears confused, and all its parts in disorder, until such a discovery with reference to it has been made; when this has been effected, everything falls into its place, and that which seemed before a chaos becomes an exhibition of order befitting the contrivance of an infinite intelligence. So far have natural philosophers gone in this direction, and so imbued are they with the conviction that all nature is a system of wisdom, an arrangement of perfect order and beautiful symmetry, that their energies are mainly devoted to the investigation of these laws. If we examine the labours of the mechanician, the chemist, the electrician, the geologist, the botanist, the physiologist, we find that all are working in the same spirit, all are in search of the same objects,—general laws,—the guiding principles of nature.

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[1] 'Works of Sydenham,' vol. I. pp. 12—17. Sydenham Society's Edition.

"All things that are," observed that excellent man who has earned for himself the epithet *judicious*, "have some operation not violent nor casual. . . . . All things therefore do work according to law, whereof some Superior unto whom they are subject is author. . . . . Those things are termed most properly natural agents which keep the law of their kind unwittingly, which can do no otherwise than they do; . . . . their strict keeping of one tenure, statute, and law, is spoken of by all, but it hath in it more than men have yet attained to know."[1]

If then,

> "Order be heaven's first law;"

if there be laws regulating every department even of inanimate nature, shall there not be laws of life and of health? If there be laws of storms and tempests in the air and the ocean, shall there not be laws of disease,—those tempestuous motions in the living body? Shall there be a magnetic bar to guide the affrighted mariner out of the intricacies and dangers of a storm at sea, and shall there be no compass to guide the physician in his efforts to extricate the sick man from the living tempest within him? It cannot be; all analogy is against it.

If it be said, the orignal constitution of nature was indeed perfect, and arranged under perfect laws, but disease has been since introduced in the train of sin, and is therefore necessarily irregular and lawless, it may be answered, the all-wise Creator was not taken by surprise when our first parents sinned; He had made infinite provision for the sad catastrophe; and while He righteously appointed disease to be the regulated avenue to death, the wages of sin; He mercifully provided medicines, and regulated their use for the mitigation of this portion of our woe.

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[1] Hooker.

Analogy then leads us to conclude that *it is probable* that a law, rule, or principle exists in nature for our guidance in the treatment of disease.

II. The *law of homœopathy.* It is obvious that though from analogy it is highly probable, nay almost certain, that a law of healing exists in nature, it does not, therefore, follow that homœopathy *is* that law. The next step required is that its own truth be demonstrated as clearly as the nature of the case admits.

What is a law of nature? By "law of nature" is to be understood the will of the Great Creator in the physical not moral government of His own works; by "general fact" is meant the actual exhibition of that will in the obedience of the creature; by "principle" we express our confidence in the unalterable character of the *law,* as seen in the continual recurrence of the *fact;* and we therefore make it a *rule* of art to guide us in our own conduct and proceedings. These terms are often used synonymously, and when so used all these ideas are implied in them. They express a natural fact, which, not in a single instance, nor occasionally, nor generally, but always, under given circumstances, happens; that is, so far as our present limited knowledge of natural events teaches us. They express a general fact ascertained by repeated observations, as a particular fact is ascertained by a single observation, which is found to be always true under certain conditions.

Let us take an example; one of Kepler's laws is this, "the planets describe equal areas in equal times."[1] When the planets are in that part of their orbit near the sun, their motion is accelerated; when at a greater distance from the sun their motion is retarded; but at every part of their course, the area described in a given time is always the same. Now if the planets could be detected *occasionally* moving after a different manner, the law would not exist; it could not be said that the planets describe equal areas in equal times, the statement would be false and not true. A law of nature cannot be a general law without being a universal one.

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[1] Demonstrated in the first Proposition of Newton's 'Principia.'

These considerations are applicable to all the known laws of nature, right reason therefore dictates their application to the law of homœopathy. It is proved to be a law if it possesses a constant action within a limited sphere; it will not operate, and ought not to be expected to operate beyond that sphere.

What then is the law of homœopathy, and what are the proofs of its truth? To avoid repetition, my readers are referred to the preceding Essay for an answer to these questions.

That there is a natural relation between the disease-producing and the disease-healing powers of drugs is, I think, clearly made out. That a poison which produces, for instance, inflammation of any organ when given in health in a large dose, will be a good remedy for a similar inflammation of that organ, arising from another cause, if given in a small dose, is, I think, fully proved;—hence the rule quaintly, but for brevity's sake, expressed in the words, "similia similibus curantur,"—likes are to be treated with likes.

That it is a stronger artificial inflammation which permanently extinguishes" the weaker natural inflammation, as asserted by Hahnemann,[1] has *not* been proved, and is apparently beyond our power to ascertain. Why should a simple fact be obscured, and its reception retarded by hypothetical explanations? Speculation and hypothesis have been the bane of medical science in all ages; when will they be discarded? Not till then will unanimity of sentiment prevail in the profession, and the greatest success attainable crown its labours.

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[1] 'Organon,' § xxvi.

On another ground also it is essential that homœopathists should restrict themselves to the expression of facts in the simplest language and in terms devoid of hypothesis. They are assailed by able, intelligent and learned adversaries, if they undertake to defend what is indefensible, they give their opponents a great advantage, and may expect defeat; if they rest upon a natural fact, free from human speculation however brilliant, they will be able to stand.

All who are conversant with researches into the constitution of nature confine themselves, when giving expression to the laws which govern its operations, to a simple statement of facts. We know too little yet of what Sydenham calls "the innermost penetralia of nature," to enter beyond the surface. We may know that under certain circumstances nature will act in a certain manner, but if we are wisely modest we shall abstain from asserting how the act is performed. With all due respect, therefore, for the memory of Hahnemann, and with very grateful acknowledgments of the benefit which by his industry and perseverance he has conferred upon mankind, I decline to adopt the hypothetical language in which he has clothed the principle "similia similibus curantur."

The *fact* is sufficient for all practical purposes. An imaginative explanation adds nothing to its value, while it perplexes the student, and affords materials which the opponent can readily assail. There are those who would rather give an erroneous explanation than own their ignorance by giving none at all. I cannot admire their wisdom. There are others who insist on following the "Master;" but, as Locke has observed, "'tis not worth while to be concerned, what he says or thinks, who says or thinks only as he is directed by another."

The hypotheses of Hahnemann constitute the greatest difficulty in the *theory* of homœopathy; if we agree to reject them, *that difficulty is removed.* "The taking away false foundations, is not to the prejudice, but advantage of truth; which is never injured or endangered so much, as when mixed with, or built on falsehood."[1]

The law of homœopathy, as expressed in the words "similia similibus curantur,"—likes are to be treated with likes,—should be understood as a simple statement of a natural fact, of universal occurrence under certain conditions which are essential, and in the absence of which it does not occur. This brings us to the third division of our subject.

III. What are the *limits* to this law of homœopathy? To what extent is it practically applicable? This is an important inquiry, and good service will be done if I succeed in defining the boundary line within which the rule of "similia similibus curantur" applies;—within which it is a *general* law, a *universal* principle.

Great indistinctness of perception prevails upon this point, which is much to be regretted. It has caused a useless discussion on a theoretical question, whether the law is a *universal* or only a *general* law; it has also given rise to a widely-extended controversy on an important practical question, the use of so-called *auxiliaries;* and it has often placed medical men in difficulties out of which they have not known how to escape.

To make this subject plain we will first inquire what is meant by the *limits* of a law of nature? and for an example in illustration we will once more refer to the law of gravitation. All bodies attract each other with a force directly proportioned to their mass, and inversely to the squares of their distances from each other. Under certain conditions this force causes bodies to approach each other. But they often do not approach each other; on the contrary, we often see bodies recede from each other; is therefore the law broken and abolished? By no means. The planets gravitate towards the sun, but in one part of their orbits they rapidly recede from that luminary; why? not because they have ceased to gravitate towards that attracting centre, but because the force of gravity is, for a time, overpowered by another force, and thus rendered apparently inoperative. In the same manner bodies often fall to the earth under the influence of gravity, but they often do not fall; why? because the attractive force is interfered with by some counteracting circumstances,—the table or the hand supports the book,—the conditions are not satisfied; let these conditions be restored, let the support be removed, and the universality of the law will be vindicated,—the book will fall.

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[1] Locke's 'Essay.' Epistle to the Reader.

Acids and alkalies have a strong tendency to combine with each other in definite proportions under the influence of chemical affinity; but if a stream of galvanic electricity be passed through the liquid in which they are dissolved and united, they are separated;—the force of affinity ceases to operate.

This law in chemistry of the union of bodies in definite proportions seems not to hold in the manufacture of *glass;* at least hitherto it has not been shown to do so. I have repeatedly tried the experiment myself; the ingredients have been mixed in the proportions of their chemical equivalents and glass has been obtained; having had for these experiments the use of a large glass manufactory; but my glass was not finer nor better than that produced by the empirical mixture made by the men. Does that invalidate Dalton's beautiful and invaluable discovery? By no means; his experiments were made at ordinary temperatures, and chemical combinations produced under similar circumstances are obedient to this law. The condition of so high a temperature as that required for the manufacture of glass does not appear at present to be within the limits of the law; nevertheless, the law is perfect; it bears universal rule within its jurisdiction, — within the conditions which limit it.

In an electrical or magnetic experiment the disturbing influences, preventing or interrupting the phenomena, are more numerous and complicated. The laws of electricity and of magnetism are not, however, thereby considered doubtful or untrustworthy; they are depended upon as absolutely certain to produce their respective events within the limits of their sphere of influence.

Such is the meaning of the *limits* of a natural law. Let us apply these ideas to the law of homœopathy. A poison taken in health produces a certain series of derangements; by this experiment the poison is indicated, according to the law of homœopathy as a specific remedy,—the best that can be obtained,—the choice one in all nature,—for a similar series of derangements occurring in natural disease. If this axiom be true at all, it will be not only *generally* but *universally* true within the limits of its conditions,—within the limits of its power of action.

We are now prepared to understand the question; *what are the limits* of homœopathy? The answer must consist in an enumeration of those diseases which come *within* the limits; and this answer will be made more plain and definite when we come afterwards to consider those cases, or parts of cases, which lie *beyond* its limits.

That the boundary is a vast one, and includes an innumerable multitude of the "ills that flesh is heir to," will be manifest on due consideration. They can be referred to only very briefly. The endless variety of affections of the brain and nerves; the disorders of the circulation of the blood; of respiration; of digestion; of absorption; of secretion; many ailments of the bones, ligaments, joints, muscles, glands, and integuments, are included within the circle of this comprehensive rule.

The practitioner who professes to take this law for his guide in the treatment of disease, must obey it with loyalty, and trust it with confidence within this extensive territory. If he bleed and blister in simple inflammation, if he give purgatives in simple chronic constipation, he is without apology. The law will guide him effectually and securely, if it be obeyed, through all such troubles as these. Such additions do more than, in the language of Johnson, "encumber us with help,"—they are unnecessary and injurious.

This brings us to the consideration of so-called *auxiliaries*. The term is improper, and ought never to be applied.

Here is a magnet and a piece of iron; when the magnet is brought sufficiently near the iron, and the iron is free to move, it is drawn up against gravity and adheres to the magnet. This is a fact illustrating the action of the magnetic force. Suppose a weight is put upon the piece of iron, and the magnet made to approach it as before; now there is no apparent action; the magnetism of the bar has not departed, but the conditions requisite for its visible manifestation are not granted; there is a mechanical impediment. Now suppose the impediment is removed with the hand, and the conditions thus restored, the action again takes place. Can the *hand* in that case be called an *auxiliary* to the magnetic force? It is obviously an improper term; we cannot help or assist a natural force, though we may often remove impediments, or assist in producing the circumstances or conditions under which the force naturally acts.

We must reject the term *auxiliary* altogether. If applied to bleeding and purging in inflammation, both the act and the term are wrong; such additions to true homœopathic treatment are not needed, they are not *auxiliaries* but *hindrances*. If applied to what is required to be done for those parts of cases which are beyond the limits of homœopathy, it is wrongly applied;—where the law does not reach it cannot act at all, and therefore cannot be assisted.

Within the limits of the law of homœopathy nothing should be added to the remedy indicated, except what is manifestly calculated to promote the comfort of the patient: appropriate food, clothing, temperature, air, water cold or warm, and cheerful and kind attendants. What is required where these limits are exceeded we will now proceed to consider.

IV.—What those cases are which are *beyond the limits* of this law, and how they are to be treated.

These out-lying cases, or parts of cases, like stragglers beyond the camp, are a disorderly group, which have given a great deal of trouble to the homœopathic practitioner, because he has not seen clearly how to deal with them. They have constituted a great practical difficulty. Let us try to subdue them to order and submission. We will take them seriatim, following the maxim of Rochfoucauld, "Pour bien savoir les choses, il en faut savoir le détail." To understand a subject we must go into particulars.

There is a class of cases of which the following is an instance. A man is heartily and hastily enjoying his dinner, he swallows the bone of a fish, and it lodges in his throat;—the practitioner is sent for in great haste —the man is choking. What dose of a "like" remedy can help in such a case? It is true that there are medicines homœopathic to the pain and incipient inflammation, but their action would be kept in abeyance, just as the force of gravity cannot bring the apple to the ground while it is supported by the twig. No, the *mechanical impediment* in both instances must *first be removed*, the twig must be broken,—the bone must be extracted—and then, the required conditions being granted, the respective laws will operate.

Another class is represented by the following cases. A railway accident, unhappily by no means unfrequent, has scattered abroad a number of poor creatures with broken arms and legs, dislocated shoulders and ankles, and wounds of all kinds. It is true that the homœopathic medicines will be of great service, but there are other requirements;—fractured bones must be replaced in their natural positions, and be retained there;

dislocated joints must be reduced; wounds must be closed with sutures and plasters, perhaps bleeding vessels tied; and bandages must be skilfully applied. All the presence of mind and practical tact of the medical attendant will be put in requisition. His applications will be much fewer in number, his apparatus much less complicated than were those of his forefathers, so graphically depicted in the glorious folio of Ambrose Parè, but something of this kind must always be required; to treat such cases single-handed is plainly beyond the power of homœopathy; but homœopathy will do its own part, and do it well; *within its own province it will need no help.*

We proceed to another class of cases. A patient is suffering from inflammation of the bladder; the physician prescribes *cantharides*;—the remedy is homœopathic to the inflammation, but it fails to afford relief. On more careful examination, a stone is found in the bladder; its presence is the cause of the inflammation; it is a mechanical impediment to the action of the remedy. The forceps is again required, the stone is removed, and the patient recovers. The failure of cantharides in this case is no reproach to homœopathy; it would have cured had there been no such impediment.

It will be said that all these are *surgical* cases, and that the homœopathic physician is not concerned with them. I grant that they are called surgical cases, and that Hahnemann himself excepts them as such; but the distinction between the surgeon and the physician is an artificial division of the medical staff which ought never to have arisen. It did not exist among the Greeks and Romans, but originated in the dark ages, and it is to be hoped that it will cease to exist in the future; and that practitioners will study the whole of their profession, and seek only the distinction of superior skill and experience. At any rate all should first be physicians, and surgery should be the superadded part.

In another class of cases we meet with strictures of the natural passages. In these cases there is the diseased condition of the part, which can be prescribed for homœopathically, but *there is something more;* there is a mechanical impediment to the free passage of what ought naturally to be allowed entrance or exit. In the case of the œsophagus it is clear that solid food must be abandoned, and only liquids swallowed; in the case of the rectum something must be done to produce liquid evacuation. Now homœopathic medicines restore health, their tendency is to bring a disordered action into a natural state; but a natural state, a healthy action is inadmissible in these deplorable cases, and consequently something must be given to produce an *unnatural* state, as the only condition on which life can for a short time be prolonged. The latter case then requires an aperient, but it is evident that the aperient is not given with any view of curing the patient, it has no pretension of that kind, its object is simply to accommodate nature to a mechanical difficulty. Should homœopathic remedies diminish the disease, and the stricture disappear, the necessity for a liquid diet in the one case, and for aperients in the other, would cease. These cases are happily very rare, but when they do occur, the medical adviser should explain their nature clearly, and especially his motive for having recourse to aperients.

Other cases the opposite of those last noticed will be met with. I lately saw an elderly lady who was in the act of losing an enormous quantity of dark blood from the bowel; her life was in great jeopardy. The rectum was distended with hard matter. Two things were immediately done; the medicine thought to be most homœopathic to my patient's condition was given, and by an enema of water, the mechanical impediment to the contraction of the bowel was removed. The hemorrhage ceased instantly, and never returned. Now this was acting strictly as a homœopathist should act. Nothing was given but the homœopathic remedy, but had I contented myself with this, my patient must have died. On the other hand, removing the mechanical difficulty was not having recourse to allopathy, it was in the strictest keeping with the purest homœopathy, and I took care that the friends of my patient should understand the nature of the case.

Again, a child fills its stomach with poison-berries, or with pastry; or a man swallows accidentally or intentionally a quantity of poison in a solid state; shall not warm water, or an emetic, or the stomach-pump, as may seem to be most called for, be immediately made available to remove the offending matter? In some of these cases magnesia, or white of egg, or camphor, or some other *antidote* may be required to neutralize chemically or vitally the poisonous substance. The remainder of the case will fall within the limits of the law, and the proper homœopathic remedies can be given.

Again, cases of fracture of the spine, where there is, of course, total paralysis of all the parts below the fracture, require a mechanical mode of relieving the bladder, during the brief remainder of life.

Again, cases of dropsical effusion *may* demand the removal of the accumulated water, not as a remedy for the dropsy, but that the distress caused by its bulk and *mechanical* pressure may, for a time at least, be relieved. For a similar reason it will sometimes be desirable to remove simple tumours by an operation. Malignant tumours, having an origin in constitutional disease should not, I think, be operated upon. They may be benefited by homœopathic treatment; the forcible removal of them subjects the sufferer to a painful operation, and tends to shorten, rather than to prolong life. We have the testimony of experienced allopathic surgeons to this fact.

It will be evident on a careful study of all these cases that none of them are cases for which homœopathy is not adapted. We hear it said from time to time—such a case is not suited to homœopathy; there are no such cases. Every case of disease is suited to homœopathy, and homœopathy is adapted to every case. It will be observed that it is for *a part only* of these cases that homœopathy is not suited. It is perfectly competent to act within its own sphere, in every case of disease; that which, in any case, lies beyond this sphere, if we follow the dictates of right reason, must be treated by other means. They are chiefly mechanical difficulties, which require to be mechanically removed. A few are chemical.

The homœopathist need not be ashamed of these things; he must avow them; he must explain them; he must, of all men, be open and straightforward, and do everything in public. Nothing can damage homœopathy, or the character of homœopathists so much as clandestine proceedings.

But what shall be done with those "bites of the caterpillar," to which we have seen that Sydenham, nearly two centuries ago, compared the mischief produced by the deleterious doses of allopathic drugs?—*The bites of the caterpillar?* What must be done with them? They are very difficult to deal with. I will describe what was done, a few months ago, with a case of this kind.

In the beginning of November last [1852] Mr. H., in Coventry, aged about 38, married, of a nervous temperament, not feeling quite well, consulted his physician, complaining chiefly of nervousness. Mercury, hyoscyamus, and digitalis in large doses, along with other medicines, were prescribed for him. The next day he felt worse, the medicines were repeated, and others added. He continued to get worse, the drugs were continued; he took to his bed; another physician was called in in consultation, and the drugs repeated. When he had been three months in bed; was emaciated to the last degree; was suffering from bilious diarrhœa; his heart beating as if it would break his ribs, 140 times in a minute; his head confused; the mercury and foxglove being still continued, and belladonna added in large and frequently repeated doses; his wife was told that she must expect the worst. This was his condition in April last [1853] when I first saw him. He had taken mercury and foxglove for five months, together with henbane, capsicum, columba, ammonia, opium, valerian, camphor, sulphuric acid, quinine, ether, assafœtida, colocynth, nitric acid, dandelion, prussic acid, hop, poppy, cod-liver oil, rhubarb, deadly nightshade, Epsom salts, senna, &c., &c. These medicines had been prescribed, in the order here given, with various salines and infusions, by these two highly respectable physicians, between the 13th of November, and the 26th of March, in as many separate prescriptions, now in my possession. What could be done? He was advised to try to take some food, and to abstain from all medicine for a week. At the end of the week he was a little better, but had been greatly agitated the day before by the stormy visit of one of his former physicians. Sulphur was prescribed for him, and in about two months, by attention to diet, and by taking a few doses of nux vomica, sulphur, nitric acid, and cinchona, I had the pleasure of leaving my patient quite well, and he soon afterwards resumed his occupation, upon which a family was dependent.

Before concluding, I must not omit to notice one class of cases which remains, and which Hahnemann reminds us common sense excludes, in the first stage of their treatment, from the domains of homœopathy. They are, in fact, not cases of disease, but of privation of life;—I allude to suspended animation by drowning, or any other kind of suffocation. Persons in this condition do not need healing of disease, but, if possible, restoring to life. Whatever means are most likely to be conducive to this end must be diligently used by the homœopathist. If he should happily succeed in these efforts, and any ailment then exist in his patient, his rule comes into action, and he treats his case accordingly.

Such, when "cleared of doubt," is the principle of homœopathy. When it is remembered how many centuries medical men have been groping in the dark without any principle to guide them, it seems scarcely possible to over-estimate the value, or to exaggerate the importance of such a discovery. It might have been expected that it would be hailed with delight by the professional body, or that at least it would be used thankfully till a better could be found, but it has met with the more common treatment of new truth—rejection without inquiry. "Damnant quod non intelligunt," says Cicero, they condemn what they do not understand; the majority being "those who prefer custom and habit before all excellency,"[1] who

"bring
A mind not to be changed!"[2]

NOTE.—The following letter, received while this Essay is reprinting, from an eminent physician in London, is an example of what is meant by "a mind not to be changed:"—

"——— *Dec.* 4, 1873.

"MY DEAR SIR,

"I thank you for sending me your Papers, and I shall always be interested to see any publication that you may do me the favour to send me; but I cannot undertake to discuss with you the action of drugs, or the law for the dose. I differ from you in your conclusions, but even if I had abundance of leisure, which I have not, I do not think that any advantage would result from a discussion of the points of difference between us.

"Believe me, yours very truly,

"——— ———."

(1873.)

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[1] Bacon, 'Advancement of Learning.'
[2] Milton, 'Paradise Lost.'

ESSAY VI.

THE PRINCIPLE OF HOMŒOPATHY,
(*CONTINUED.*)

"The *love of truth* is of equal importance in the reception of facts, and in the formation of opinions; and it includes also a readiness to relinquish our own opinions, when new facts or arguments are presented to us which are calculated to overturn them."

ABERCROMBIE.

ESSAY VI.[1]

THE PRINCIPLE OF HOMŒOPATHY,

(*CONTINUED.*)

> "Ce serait faire tort au progrès des sciences que de ne pas vouloir abandonner des théories contraires aux observations que présente l'état actuel de nos connaissances."
>
> BARON HUMBOLDT.

> It would be doing an injury to the progress of science were we not willing to give up hypotheses which are contrary to the observations furnished by the present condition of our knowledge.

ON a former occasion,[2] the precise limits have been pointed out within which the principle of homœopathy can be applied to *diseases;* the counterpart to that inquiry remains;—what are the limits within which it is applicable to *remedies?* It is proposed now to attempt an answer to this question.

From a careful study of the 'Organon,' and other writings of Hahnemann, we learn that he viewed the law of "similia similibus curantur" as applying, first to the power which one disease exerts over another; secondly, to the influence of mental emotions; thirdly, to the action of the so-called imponderable agents, light, heat, electricity, and magnetism; and fourthly, to the operation of drugs. It is necessary to study each of these subjects separately.

I. The homœopathic action of *diseases.*—Hahnemann divides natural diseases into two great classes; the one consisting of such as are *dissimilar*, the other of such as are *similar* to each other. And he remarks "that no previously existing disease can be cured, even by nature herself, by the accession of a new *dissimilar* disease, be it ever so strong." "Totally different, however, is the result when *two similar diseases* meet together in the organism, that is to say, when to the disease already present, a stronger similar one is added. In such cases we see how a cure can be effected by the operations of nature, and we get a lesson as to how we ought to cure."

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[1] First published in 1854.

[2] Essay v.

Dissimilar diseases he arranges under three heads: "1st. If the two *dissimilar* diseases meeting together be of equal strength, or still more, if the older one be the stronger, the new disease will be repelled by the old one from the body and not allowed to affect it." The following are his examples:—

"The *plague* of the Levant does not break out where *scurvy* is prevalent."

"Persons suffering from *herpetic eruptions* are not infected by the *plague*."

"*Rachitis* prevents vaccination from taking effect."

"Those suffering from *pulmonary comsumption* are not liable to be attacked by *epidemic fevers* of a very violent character."

"2d. Or the new dissimilar disease is the stronger. In this case the disease under which the patient originally laboured, will, as the weaker, be kept back and suspended by the accession of the stronger one, until the latter shall have run its course or been cured, and then the old one again makes its appearance *uncured*." These are the instances given:—

"Two children affected with a kind of *epilepsy* remained free from epileptic attacks after infection with *ring-worm*; but as soon as the eruption on the head was gone, epilepsy returned just as before."

"The *itch*, as Schopf saw, disappeared on the occurrence of the *scurvy*, but after the cure of the latter it again broke out."

"*Pulmonary phthisis* remained stationary when the patient was attacked by a violent *typhus*, but went on again after the latter had run its course."

"If *mania* occur in a *consumptive* patient, the phthisis with all its symptoms is removed by the former, but if that go off, the phthisis returns immediately and proves fatal."

"When *measles* and *small-pox* are prevalent at the same time, and both attack the same child, the measles that had already broken out are generally checked by the small-pox that comes somewhat later; nor do the measles resume their course until after the cure of the small-pox." Sometimes the reverse of this takes place. So with *scarlatina* and *cow-pox.* The scarlatina will sometimes suspend the cow-pox, and sometimes the reverse will happen. The *measles* suspend the *cow-pox*, but do not prevent it from afterwards running its course. So with the *mumps* and *cow-pox.*

"And thus it is with all *dissimilar* diseases, the stronger suspends the weaker, but *the one never cures the other.*"

"3d. Or the new disease joins the old one that is dissimilar to it, and forms with it a *complex* disease."

"When two dissimilar acute infectious diseases meet, as, for example, *small-pox* and *measles*, the one usually suspends the other, but in rare cases the two for a short time combine, as it were with each other, as seen by P. Russell and others. Zencker saw *cow-pox* run its regular course along with *measles* and along with *purpura.*" Such are the *dissimilar* diseases.

Let us now learn what those diseases are which Hahnemann arranges together as *similar*, and of which he asserts that they "can neither repel one another, nor suspend one another, nor exist beside each other." . . . "No! invariably, and in every case, do two diseases, differing, certainly, in kind, but very similar in their phenomena and effects, annihilate one another, whenever they meet together in the organism." And as his "object is to speak about something determinate and indubitable," he gives the following proofs of the assertion just quoted :—

" The *small-pox*, so dreaded on account of the great number and severity of its symptoms, has removed and cured a number of affections with similar symptoms." Such as *ophthalmia, amaurosis*, a case of the latter, " of two years' duration *consequent on suppressed ringworm.*" *Deafness, difficulty of breathing, dysentery.*

" The *cow-pox*, a peculiar symptom of which is to cause tumefaction of the arm, cured, after it broke out, a *swollen* half-paralysed arm."

" The fever accompanying *cow-pox* cured homœopathically an *intermittent fever* in two individuals."

" The *measles* bears a strong resemblance in the character of its fever and cough to the *hooping-cough*, and hence it was that Bosquillon noticed in an epidemic where both these affections prevailed, that many citizens who then took measles remained free from hooping-cough during that epidemic."

" If the *measles* come in contact with a disease resembling it in its chief symptom, the eruption, it can indisputably remove and effect a homœopathic cure of the latter. Thus a *chronic herpetic eruption* was entirely and permanently (homœopathically) cured by the breaking out of the measles."

" An excessively burning *miliary rash* on the face, neck, and arms, that had lasted six years, under the influence of *measles* assumed the form of a swelling of the surface of the skin ; after the measles had run its course, the rash was cured and returned no more."

" Nothing could teach the physician in a plainer and more convincing manner than the above, what kind of artificial morbific potency (medicine) he ought to choose, in order to cure in a sure, rapid, and permanent manner, agreeably to the process that takes place in nature."[1]

I have extracted thus largely from the 'Organon' upon this point for severals reasons ; first, that a full account may be given of the argument as propounded by Hahnemann; secondly, that the two lists may be read in their connection; this I cannot but think will be sufficient to convince every intelligent person that the supposed homœopathic relation of one disease to another is imaginary and untrue; and thirdly, to point out how unfit the 'Organon,' is to be held up as a text-book to students, and how unsafe a guide Hahnemann would prove to those who surrender themselves to him in implicit obedience. Truly, never was hypothesis based upon more slender materials; never did assertion and inadequate proof appear more conspicuously side by side than in these paragraphs..

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[1] 'Organon,' §§ xxxv to xlvii.

It cannot be necessary to examine in detail these so-called *dissimilar* and *similar* diseases. It may suffice to remark that measles and small-pox, which are so far alike, that for centuries they were supposed to be modifications of the *same* disease, are classed as *dissimilar;* while measles and hooping cough, with all their visible difference, are classed as similar, and as homœopathically curing one another! A few months ago, there was an epidemic of measles in this neighbourhood; some of the children had no sooner recovered from the measles, than they were attacked with the hooping-cough; whereas, if Hahnemann's doctrine had been true, this would not have happened.

It might be thought that there was some similarity between *cow-pox* and *chicken-pox;* certainly they resemble each other more closely than do measles and hooping-cough. The following cases occurred to me this summer:—

On the 17th of August, 1853, three brothers were vaccinated; John Clarke, aged sixteen years; William, aged fourteen; and George, aged eleven. On the eighth day the vaccination on William's arm had taken effect, and was running its usual course; the others seemed to have failed. John was re-vaccinated; but George presented a rash, having the appearance of chicken-pox, which prevented his re-vaccination. At the end of the second week, William's cow-pox was completed; George's chicken-pox was going on; but

John, instead of presenting the pustules of cow-pox on the arms, was covered with chicken-pox ; this subsided in due time, and then the cow-pox appeared, and went through its accustomed stages. On the 10th of September, twenty-four days after he had been vaccinated, George was brought to me ; his chicken-pox had disappeared, but he had now a large cow-pox pustule on the back of the right *hand*, with inflamed absorbents, and an enlarged gland in the axilla ; the pustule ran through its usual course, when the accompanying symptoms disappeared. Thus the resemblance between cow-pox and chicken-pox, which is certainly greater than that between *cow-pox* and *intermittent fever*, produced no homœopathic cure of either.

Well might Hahnemann conclude this part of his subject with the remark, "We should have been able to meet with many more true, natural homœopathic cures of this kind *if nature had not been so deficient in homœopathic auxiliary diseases.*"

Rau, who has also written an 'Organon,' in some respects more interesting and instructive than Hahnemann's, objects to the instances of similarity in diseases brought forward by the latter.

He says, "in many of these cases the external similarity is not very remarkable. If small pox is sometimes accompanied or succeeded by a swelling of the arm, dysenteric diarrhœa, ophthalmia, and blindness, it does not follow that there is a similarity between these diseases and small-pox." Rau, however, does not reject the notion as unfounded, but endeavours to prove it by other, and, as he thinks, by better instances. He goes on to say, "there are other much more instructive and convincing cases, such as habitual headache, disappearing in consequence of a typhus ; or paralysis of the arm as a sequel of typhus disappearing again after the lapse of several years under the influence of a second attack of typhus." I do not see that these examples are at all more "convincing" than Hahnemann's.

Such are the best proofs which have been adduced in support of the application of the law of similia similibus curantur to the action of diseases upon each other. The influence which diseases exercise upon each other is a very curious and intricate subject, the discussion of which does not come within the scope of our present business; but, from the facts now before us, it is obvious that this influence is governed by other laws than that of like curing like; in other words, the principles of pathology are not identical with the principle of therapeutics; the laws which govern the natural course of diseases are not the same as the law which guides us in the treatment of these diseases by remedies. It is plain, therefore, that the action of diseases upon each other cannot be included within the limits of the law of homœopathy.

II. The homœopathic action of *mental emotions.*—It would seem that man is a triune being, composed of a body, an animal life, and a spirit. His body, the materials of which are derived from the earth upon which he treads, is an exquisite piece of machinery, "fearfully and wonderfully made." The animal life, or vital principle, is the life which he has in common with the lower animals. His spirit is an immaterial and immortal essence, intelligent and moral, the presiding powers of which are reason and conscience. The vital principle and the intelligent spirit are "the lives," which, in the beginning, were "breathed" by the Great CREATOR into the prepared body. The triple union is man. Since man's moral fall all three are subject to derangement; the body and the vital principle are appointed to death. The derangements of the one act upon the other two. The diseases of the body act through the vital principle upon the mind; and, on the other hand, the disorders of the mind act through the same medium, upon the body. These are the only instances we are cognisant of in which matter and spirit meet and act upon each other; in all other cases, so far as we know, matter acts only upon matter, and spirit upon spirit.

The question arises according to what laws do the mental emotions of one individual operate upon those of another?

"Mourning and sorrow," says Hahnemann, "will be effaced from the mind by the account of another and still greater cause for sorrow happening to another, even though it be a mere fiction." In other words, Hahnemann thinks that the law of homœopathy, applies to the action of the mental emotions of the physician or friend upon the mind of the patient, as it does to the action of material poisons upon his body. I think it does *not*, and for the following reasons:—

First. There is no *analogy* to render it probable that the law of homœopathy applies to mental emotions. The laws regulating spiritual phenomena, so far as we are yet acquainted with them, are not identical with the laws which govern matter and its movements. Is there any perceptible connection between the operations of mind and the laws of gravity, chemical affinity, electrical attraction, and repulsion, &c., which regulate the operations of matter? Can we, in fact, point out any two things more different?

Secondly. The effects produced by the emotions of one mind upon those of another, in a healthy state do not in any way resemble the injurious effects of poisons upon the body. They do not, by their own nature, engender disorders, but on the contrary, the natural action of one mind upon another is of a beneficial and happy tendency; otherwise social existence would be an unmixed evil. According to the homœopathic law, poisons are to be "proved" upon the healthy body, in order to learn the symptoms they are capable of producing, which symptoms are the guide for their use as remedies in natural disease. Can there be anything like this undertaken with mental emotions? Should any one suggest that disordered emotions, such as anger, for example, produce similar disorders in other minds, I think they will scarcely have the hardihood to assert that such disordered conditions in one mind act homœopathically as remedies for similar disorders in other minds.

Thirdly. The experience of all ages down to the present time has recommended an opposite mode of treatment for the disorders of the mind. Seneca prescribes for those in sorrow, "Precipue vitentur tristes, et omnes deplorantes." Sorrowful companions and all mourners are specially to be avoided. And he adds the following strong remark,—"Si quis insaniam ab insaniâ sic curari æstimat, magis quam æger insanit." If any one thinks to cure insanity by insanity, he is more insane than the patient. A sacred writer observes, "a merry heart maketh a cheerful countenance, and doeth good like a medicine." Genuine sympathy with cheerful kindness will do all the good that one mind can do to another.

Fourthly. Hahnemann has not pointed out the failure of the universal practice in this matter, nor the fallacy of its principle; nor shown that experience down to the present time is unsatisfactory; neither has he adduced proofs in support of his new view of the subject. He gives the example already quoted;—"Mourning and sorrow will be effaced from the mind by the account of another and a still greater cause for sorrow happening to another." But this does not prove his point, for it is not a fact. The attention of the mind may be *diverted* for a time from its own sorrow by the recital of another's grief; but his own sorrow will not be *effaced* thereby; it will remain as before, and his mind will soon revert to it.

The careful consideration of these reasons leads distinctly to the conclusion that the laws of the science of metaphysics and those of therapeutics are not identical; that the influence which one mind exerts over another is governed by other principles than that of like curing like; it is plain therefore that the action of mind upon mind cannot be included within the limits of the law of homœopathy.

III. The Homœopathic action of *physical agents.*—The material world is a wonderful exhibition of the Divine power. The solid earth, the ever restless ocean, the majestic mountain, the beautiful valley, the boundless plain, the gliding river, the noble forest, the lovely flower, the moving creature in every part, and—over all—the uplifted countenance of man. All these are palpable and ponderable matter; but besides these there is the genial warmth, the glorious sunshine, the vivid flash, the rolling thunder, which constitutes as it were the *confines* of the material creation, to which we must now return, after a brief visit to the region of mind and immaterial spirit.

In a future Essay, facts will be mentioned which seem to prove that the space occupied by the universe is filled with matter;—inconceivably attenuated, it is true, but still material. Upon this subtle form of matter various *motions* are impressed, producing the phenomena which we call heat, light, electricity, and magnetism. Each of these it is now needful to investigate, so far as relates to the subject of homœopathy.

HEAT.—It is probable that all the so-called imponderable agents are peculiar *motions* of the infinitesimal particles of matter, and perhaps each of these motions exist in two different forms,—the vibratory and the undulatory. For example, heat resident in a body may be called vibratory, and when passing from one body to another, undulatory. Heat in this latter form, often called radiant heat, produces upon the living body certain peculiar sensations which we call hot, warm, or cold. These sensations can be produced by degrees of heat within certain narrow limits only. When these limits are exceeded heat causes the death and destruction of the organised animal structure. If in excess, we say the part has been burned; if in deficiency, we say it has been frozen. All sudden transitions from one degree of temperature or heat to another are injurious to living bodies; if, therefore, any part of the body has been exposed to too great a heat, the method to be pursued, in order to suffer as little as possible from this exposure, is a gradual return to a more appropriate temperature; and the same holds good if any part has suffered from deficiency of heat. Thus a burned hand may be gradually cooled by being slowly withdrawn from the fire; while a frozen limb may, in like manner, be gradually warmed by being rubbed with snow.

This explanation seems sufficiently obvious and satisfactory; we cannot but demur, therefore, when these facts are adduced as instances of homœopathic action, as they are in the following sentences of the 'Organon.'

"In recent cases of frost-bitten limbs, frozen sourcrout is applied, or frictions of snow are used. The experienced cook holds his hand, which he has scalded, at a certain distance from the fire, and does not heed the increase of pain that takes place at first, as he knows from experience that he can, thereby, in a very short time, often in a few minutes, convert the burned part into healthy painless skin."[1]

These are not instances of "like curing like." The agent which causes the mischief, and which cures it is *the same*;—it is heat in different *degrees*; if, therefore, the action is at all specific it is isopathy,—the same curing the same,—not homœopathy,—like curing like; but in truth, it is neither the one nor the other. The explanation has already been given, and it is plain that the action of heat upon the living body cannot be included within the limits of the law of homœopathy.

LIGHT.—This beneficent and beauteous endowment of matter pervades, with astonishing rapidity, the vast expanses of the universe. A cannon ball would take a year to pass through the distance which light traverses in a second. Such is the velocity of this undulatory movement; its other properties are equally remarkable; witness the brilliant colours produced by its refraction and reflection in the rainbow, and above all, the power which it possesses of so acting upon the eyes of living creatures as to enable them to *see* surrounding and even distant objects. So far as we know, light does not affect any other part of our body, while that is in its natural condition; it produces no action upon the sentient nerves of the skin, nor upon the organs of the other senses. Various degrees of light, within certain limits, (to be mentioned in Essay IX,) produce an impression upon the eye. As might be expected, a greater degree overpowers the impression caused by a smaller degree; hence the stars are not seen by day. The light of the stars has much less power to affect our eye than the light of the sun, it therefore cannot be perceived while the latter is above the horizon. If the sun's light be excluded, which may be done either by descending into a deep well, or by looking through a powerful telescope, then the stars become visible at noon-day. Thus the perceptible impressions produced upon the eye are dependent upon the various *degrees* of light which reach the organ,—the more powerful preventing the perception of the weaker.

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[1] 'Organon,' Introduction, p. 100.

Let us now hear what Hahnemann says upon this subject. To the paragraph announcing the "homœopathic law of nature" is appended the following note;—"Thus are cured both physical affections and moral maladies. How is it that in the early dawn the brilliant Jupiter vanishes from the gaze of the beholder? By a stronger, very similar power acting on his optic nerve, the brightness of approaching day!"[1] And this according to Hahnemann, is an instance of homœopathic cure!

It is difficult to refrain, here, from some reflections on the want of the power of discriminating evinced by our medical reformer. It is true he laid hold upon a fact when he discovered the homœopathic action of drugs, but how indistinctly must he have viewed that fact, and how visionary are his speculations respecting it!

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[1] 'Organon,' § xxvi.

It is difficult to trace the remotest analogy between the fact that a poison produces a disease, and cures another like it, and the effect of different degrees of light upon the eye. The light of Jupiter produces no disease for the light of the sun to cure; again, if the eye has been injured by too much light, it is not restored to health by a still stronger degree of light; and again, if it were, it would not be by a *similarity* of agents, but by the *same* agent, acting in a more or less powerful manner; the light of the "brilliant" Jupiter is but the reflected light of the sun.

This deficiency in the power of discrimination in the mind of Hahnemann becomes, if possible, still more conspicuous in the sentences immediately following the one last quoted. "In situations replete with fetid odours, wherewith is it usual to soothe effectually the offended olfactory nerves? With snuff, that affects the sense of smell in a similar, but stronger manner! How does the warrior cunningly banish the piteous cries of him who runs the gauntlet from the ears of the compassionate by-standers? By the shrill notes of the fife, commingled with the roll of the noisy drum! and the distant roar of the enemy's cannon, that inspires his army with fear? By the mimic thunder of the big drum!"

Such observations as these surely require no refutation. They are entirely inapplicable as illustrations of homœopathy. Some writers on homœopathy admit that Hahnemann's illustrations are "unhappy," and with that admission they let the matter drop. But why are they unhappy? Simply because they are *untrue*. It is not difficult to see that there is nothing of the nature of homœopathic action in these examples; and it is plain that the motions producing light, and also those producing sound, cannot be included within the limits of the law of homœopathy.

ELECTRICITY.—The attractive power of amber, called by the Greeks ἔλεκτρον, an almost solitary fact known to the ancients, has given a name to a property which is now ascertained to belong to all bodies. The remarkable phenomena, and the extensive relations of this property or force, have been successfully investigated only within the present century, and even at the present day, though a vast number of facts have been observed, the subject is still shrouded in much mystery. In reference to animal life, and its bearing upon the subject before us, it may be remarked that the relations which exist between the electrical force and the nervous influence are of the most intimate, but at the same time of the most subtle character. They have occupied the close attention of natural philosophers for some time, but as yet few data have been well established. The shock which the torpedo can communicate was known to the ancients. That this shock was electrical was discovered by Mr. Walsh, and communicated through Dr. Franklin to the Royal Society in 1772. The animal was sent by Mr. Walsh to John Hunter for examination, and its electrical organs are described by the latter in the 'Philosophical Transactions' of the following year. The next discovery was Galvani's, in 1789, that the electricity excited by the contact of two metals can produce muscular contractions; our knowledge was further advanced by Baron Humboldt, by his examination of the gymnotus electricus, the electric eel of South America, a very interesting account of which is contained in his 'Recueil d'Observations de Zoologie et d'Anatomie comparée,' 1811. Of late, the subject has been pursued, especially by Professor Matteucci, who, in his 'Traité des Phénomènes Electro-Physiologiques des Animaux,' and in a series of memoirs communicated to the Royal Society, and published in the 'Philosophical Transactions' for the years 1845, 1846, 1847, and 1850, has described an immense number of most delicate and accurate experiments.

It will be sufficient to allude to one or two conclusions resulting from these experiments, to show that the mode of action of electricity upon the living nervous system is very complicated and peculiar; and that our knowledge of it is quite inadequate to enable us to prove it to be within the limits of the law of similia similibus curantur.

In Matteucci's fourth 'Memoir,' published in 1846, his object is to prove that the electric current transmitted along a nerve modifies the excitability of the nerve in a manner differing widely according to the direction of the current. Thus, the *direct* current *rapidly exhausts this excitability*, while the *inverse* current *increases it.*

In 1847, Matteucci ascertained that if an animal is etherised, and the direct current is passed along one sciatic nerve, and the inverse along the other, contraction of the muscles takes place with the *direct* current, *only on interrupting the current;* while with the *inverse* current contraction appears *only on closing it.* But these are the phenomena with the anterior roots of the nerves, or nerves of sensation only;—if these be cut, the effects are instantly reversed, contraction with the *direct* current takes place on *closing*, and that with the *inverse* on *opening* or interrupting the circuit.

These experiments are sufficient to make it evident that the effects produced by the application of an electrical current to the living body are of an intricate and refined nature, and that we are extremely ignorant with regard to their details. To ascribe any curative influence, therefore, which may have happened to follow from the use of electricity to the law of homœopathy is a premature and unwarrantable conclusion. In fact, the application of electricity as a remedial agent, with our present ignorance of the effects it may produce, resembles far more the rude proceedings of quackery, than doings which profess to be regulated by a law of healing.

Experiments of this kind have been related,—an electric shock communicated to the head of a rabbit deprives the animal of sense and motion—produces paralysis; a second shock restores consciousness and voluntary motion, — removes paralysis; and these alternate effects may be almost indefinitely produced by successive discharges of electricity. But whatever this is, it is not homœopathy; it is not *like* curing like.

I have, formerly, made use of the electric aura, (a current from a wooden point,) in opacity of the cornea, with some advantage; and have seen it, when applied by a small galvanic battery, relieve anomalous neuralgic pain; I have often tried it in paralysis, but with very unsatisfactory results. Electricity has again and again been brought forward as a remedial agent, and has again and again been laid aside, in consequence partly of its frequent failures, and partly from our not knowing how to apply it, and how to apportion the degree of intensity to the nature of the case. For it will be observed that electricity, like heat and light, acts beneficially or otherwise simply in proportion to its *degree* or quantity.

This last remark suggests another circumstance in which these imponderable agents differ from drugs; a certain condition or amount of each is, every moment, essential to the maintenance, not only of health, but of life itself. A certain temperature, a certain amount of light, and a certain condition of electricity preserve life and health,—how we know not; while other degrees or quantities of these all-pervading properties or affections of matter may instantly destroy both; as by a sun-stroke, or a flash of lightning. With all these, therefore, the effects are dependent upon *degrees*,—in one degree they may injure, in another degree they may relieve; but in none of these cases can the law of like curing like be fairly applied. Their regulated use belongs more to the province of hygiène than that of therapeutics. To the affairs of clothing, exercise, and diet, rather than to medicine.

It is plain, therefore, that the phenomena of electricity cannot, in the present state of our knowledge, be included within the limits of the law of homœopathy.

MAGNETISM.—The attractive power of the peculiar native oxide of iron called loadstone, and its use in the mariner's compass, have been long known; but we are indebted to the recent discoveries of Faraday for our knowledge of the fact that magnetism, like electricity, is a universal property of matter. It is true that only a small number of bodies have a polarity similar to that possessed by iron, and which are called magnetics; but all other bodies have a polarity acting at right angles to that of iron, and are called diamagnetics. The connection between electricity and magnetism is now known to be of the most intimate nature, as is seen in the new sciences of electro-magnetism and magneto-electricity. Close relations are also traced between these properties of bodies and those of heat, light, and chemical affinity. But our present business is the question, has magnetism any connection with the law of homœopathy?

Hahnemann enumerates about nine hundred symptoms as occasioned by the touch of the magnet.

"Those symptoms which have no reference to either pole in particular have been obtained incidentally during the course of experiments of six months' duration, the object of which was to find out the best and most effective mode of magnetizing steel: a magnetic horse-shoe, carrying *twelve pounds*, being handled for hours in succession, and both hands being thus in constant contact with either pole."

"Those symptoms which have reference to one pole in particular, have been obtained by means of a powerful magnetic bar being touched by persons in good health, for eight or twelve minutes, seldom more than once."[1]

Now, without its being necessary to assert that all, or even that many of these symptoms have been erroneously attributed to the action of the magnet, I cannot see that any proof can be gathered from them that the magnetic influence on the living body is governed by the law of similia similibus curantur. On the contrary, I think there is sufficient evidence on the face of Hahnemann's own report to justify us in concluding that magnetism is *not* governed by this law. The following are the reasons :—

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[1] Hahnemann's 'Materia Medica Pura,' translated by Hempel, vol. III. p. 22.

First. I have carefully studied the three series of symptoms, viz., those supposed to be produced by the magnet without reference to either pole, those caused by the north, and those arising from the south pole, and I cannot discover that they present any picture of disease which can be considered characteristic ;—that is, so peculiar as to distinguish the effects of the magnet from those of other noxious agents. Hahnemann often insists, and with great justice, on the fact that each poison produces symptoms peculiar to, and characteristic of, itself.

Secondly. Notwithstanding Hahnemann's assertion that it "will be seen from the following symptoms that each of the two poles produces phenomena in a healthy person different from that of the other pole," I cannot find any difference sufficiently striking or important to prove that it is not accidental. Hahnemann does not attempt to aid us in our endeavours to distinguish between the effects of the two poles except in one circumstance. He says, "The south pole appears to excite hemorrhage as its primary effect ; the north pole seems to act in the contrary manner." Now it so happens that under the *north* pole he gives us the following symptoms :—"Bleeding from the left nostril." "Bleeding of the nose for three quarters of an hour." "Violent bleeding at the nose for three afternoons in succession." While nothing of the kind is to be found among the symptoms supposed to be occasioned by the *south* pole.

These reasons might appear to be sufficient, but I feel obliged to remark further, that, though in Hahnemann's works, there is a great appearance of the strict accuracy and precision required in a philosophical writer, there is, in reality, a great lack of those qualities. For—

Thirdly. Many symptoms are stated to arise "from touching the centre of the bar ;" at which part of a magnet it is well known that the magnetic influence is neutral, and that no effects have yet been elicited from it. Now, whatever might be thought of these symptoms, were the effects of the *poles* of the magnet established, they certainly ought not to have been brought forward as proving anything, so long as that—the main question—remains undecided.

Fourthly. Some symptoms, as "fits of fainting, palpitation of the heart, and suffocation," are put down as having arisen "from *omitting* the usual imposition of the magnet." One cannot but marvel that such evidence as this should be adduced to prove an important and novel fact.

Fifthly. Hahnemann himself, notwithstanding his endeavour to lay down precise rules respecting the magnetic influence on the body, is evidently confused in his own mind. He says, "the contact of a pole seems to produce alternate effects analogous to those of the opposite poles." "If the symptoms of a case correspond to the general symptoms of the magnet, without having reference to any pole in particular, in this case that pole is to be chosen which seems to be more closely homœopathic to the case. If the symptoms should then disappear suddenly, or if new symptoms should be elicited of half an hour, or even of a quarter of an hour's duration, this is a sure sign that the magnet has acted enanthiopathically, and the other homœopathic pole is to be applied immediately for as long a time, as the palliative had been." "The disagreeable effects of an anti-homœopathic application of the magnet, which are sometimes very considerable, may be palliated by small *electric sparks;* they can be permanently cured by the flat hand being imposed upon *a large tin surface* for half an hour,"—&c.

It is obvious that, in this matter, Hahnemann has entangled himself and his students in an inextricable maze. It seems to be impossible to gather any directions, sufficiently simple and positive to be followed in actual practice, from the five-and-forty pages of the 'Materia Medica Pura' occupied with magnetism. I think it is plain, therefore, that the magnetic influence on the living body is not included within the limits of the law of homœopathy.

But this is not all. It is an admitted rule in Natural Philosophy that the results of experiments cannot be received as satisfactory and true, unless they occur again in the hands of others repeating the experiments of the original observer. Before the conclusions of Hahnemann can be adopted, others must experience at least *some* of the symptoms he has recorded. And on the same ground, before they can be permanently rejected, the experiments must be repeated without his results, sufficiently to make it evident that he has fallen into error.

I have tried in a variety of ways to obtain some effects, or to experience some unquestionable influence from magnets, but am constrained to say without success. I have tried them on my own person, and on that of others. It is true that, in one instance, in an individual of a highly nervous and susceptible temperament, some symptoms were obtained, such as rumbling of the abdomen, a feeling of faintness, and a speedy action of the bowels; but then, on repeating the experiment with the same person, a few days afterwards, *with a similar bar of unmagnetized steel*, precisely the same effects followed; clearly proving that the results of the previous trial were due to the force of imagination, and not to the force of magnetism.

To obtain a confirmation, either of Hahnemann's results or of my own, I have communicated with the two individuals who have had more personal and practical experience in the handling of and experimenting with magnets than any others in the world; and by their kind permission, their replies are now given. The first is from my friend Dr. Scoresby :—

"TORQUAY, *Nov.* 7, 1853.

"Dear Dr. Sharp,—In reply to your enquiry as to any sensible effects on the bodily feeling or condition from the handling of powerful magnets—I can decidedly state that no such effects have ever been experienced by me; at least in such a degree as to draw my attention to such circumstance.

I have felt *no sensible effect* either from the magnetizing of bars of steel, or handling the most powerful magnets, or working with a powerful magnetic apparatus for hours together. My largest magnet, comprising five hundred feet of steel bars,—one and a half inch broad and a quarter of an inch thick,—and capable of sustaining *four hundred pounds* weight, (though not well adapted for lifting purposes,) produces no sensible effect on the feelings.

I am,
Dear Dr. Sharp,
Yours very faithfully,
W. SCORESBY."

The second letter is from Professor Faraday, to whom I have often been indebted for kind communications, and who on this, as on all former occasions, promptly furnished me with the information sought of him :—

"ROYAL INSTITUTION, 19*th Dec.* 1853.

"My dear Sir,—I have often experimented on the subject, and my results are all negative. Having an electro-magnet which could have the magnetic power developed and suppressed at pleasure, and which, when excited, would sustain some *tons* weight, I have submitted the most delicate parts of my own organization to it without being conscious of the least influence. I have placed the ball of the eye close up to a pole, either one or the other, and then put the power on and off, quickly and slowly, but without the slighest consciousness of the least change in any function of the eye or the parts about it. I have repeated the experiment with the nostrils; the tongue; the ear; with a wound; with a fresh cut;—but no effects have been produced.

Mr. Warren de la Rue constructed a beautiful electro-magnet with pointed poles, so arranged that they could be brought very near each other;—animalcules of various kinds were placed between them, and then observed with a microscope. I predicted from my own experiments that nothing would occur of an extra character; and such was the result. The creatures showed no difference whether the power was *on* or *off*, or passing on or off,—the motions and appearances of the cilia, and other parts of the little animals, remained constantly the same.

I have worn a magnet about my person for some time, without the least indication of any effect; and when I have worked for hours together, and day after day, with powerful magnets, and amongst them that before referred to, I have not been conscious of any influence.

I believe that, as yet, we have not the slightest real evidence of the influence of a magnet, (acting only as a magnet,) upon an animal of the highest or of the lowest organization,—or upon any plant, as a *living* object. Considered as *inert* matter, they are all subject to the power, for I have found a living or a dead mouse to be equally diamagnetic.

Ever, my dear Sir,
Very truly yours,
M. FARADAY."

I leave my readers to draw their own conclusions from the evidence before them. It appears to me that this preponderates greatly against *any effects whatever* being produced by magnetism upon the living body in its ordinary condition; but even if it should hereafter be established that effects are sometimes produced, I believe these effects will be found, on careful investigation, to be entirely ungoverned by the law of homœopathy.

For myself, I cannot but conclude that Hahnemann is quite in error, when he supposes that the homœopathic law can, with any show of propriety, be applied to the action of the physical influence of *any* of the so-called imponderable agents. The only analogy which I can discover is that of *polarity*. We know that like electricities, and like poles of a magnet, *repel* each other,—similia similibus repelluntur; beyond this faint resemblance, I can, as yet, trace no connection.

IV. The homœopathic action of *drugs*.—It has been more or less generally acknowledged, from time immemorial, that, "poison is the remedy for poison." Some very plain proofs have been given in Essay IV. that this "homœopathy in the general" is also true when we descend into particulars. A careful review of the examples given in that Essay, will render it impossible for any intelligent and unprejudiced person to deny, that *a relation exists in na* [illegible] etween the effects of material poisons on the healthy frame, and the effects of the same poisons on diseases resembling those which they are capable of producing. This relation is expressed by the word homœopathy,—like curing like.

Hahnemann's formal definition of this law of homœopathy in the 'Organon' is as follows :—

"A weaker dynamic affection is permanently extinguished in the living organism by a stronger one, if the latter (whilst differing in kind) is similar to the former in its manifestations."[1]

This paragraph, instead of announcing a natural fact which he had discovered, states a fiction which he had imagined. He gives us no sufficient evidence to prove that the artificial disease induced by the remedy is a stronger one than the previously existing natural disease. Analogy does not make it probable that this should be the case, especially with an infinitesimal dose of the remedy ; and if it were so, it would be still less probable that such a mode of proceeding could restore any one to health.

I am constrained, therefore, to reject this definition, and venture to propose the following as a substitute :—

Every material poison, gaining admission into the healthy body, has a tendency to produce a diseased condition, evidenced by symptoms or physical signs, more or less peculiar to itself ; and every such poison is the most appropriate remedy for a similar diseased condition which has arisen from other causes.

From this definition it appears that, in the present state of our knowledge, this law is an ultimate fact. We are ignorant of its cause, and also of its connection or correlation with other natural facts ; it can therefore be used only as an empirical guide.[2] But when it is remembered that before we became acquainted with this fact we had *no guide*, and that this is an intelligible and plain one, it will be seen that it must prove a great gain to the practice of medicine. And when it is further remembered that the most advanced sciences, as astronomy and chemistry, are in the same manner based upon ultimate facts, the causes of which are equally unknown, we need not wonder, neither need we be distressed, if in medicine also we find ourselves compelled to work by a rule the construction of which is hidden from our view.

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[1] 'Organon,' § XXVI.

[2] It is hoped that some additional light is thrown upon this very difficult subject in the concluding Essays. (1873.)

From the evidence adduced in Essay IV, it is plain that *the action of material poisons, or as they are commonly called drugs, is included within the limits of the law of homœopathy;* and from the evidence brought forward in this Essay, it is also plain that as yet, *we know of no other actions which are included within it.* Thus the question proposed, what are the limits within which the law of homœopathy is applicable to *remedies?* has now been answered. It is applicable to drugs, but to nothing else.

Goethe, himself a German, observes that "the Germans have the gift of rendering the sciences inaccessible;" certainly Hahnemann possessed the art of making homœopathy unacceptable. In this way among others, by attempting to make an indiscriminate application of the law to the action of diseases; of mental emotions; of physical agents; and of material poisons. Thus regarding it as a foundation of pathology, of moral philosophy, and of dynamical science, as well as of therapeutics; a proceeding as unphilosophical as if Newton had attempted to make the law of gravitation the basis of chemistry, physiology, and metaphysics, as well as of astronomy.

I venture to hope that this confusion is now cleared up, the difficulty obviated, and a serious objection removed; and that in future both the nature and the limits of the principle of homœopathy will be perceived and maintained. I shall rejoice if the subject has been made more intelligible to my readers, and placed in a light less repulsive to my professional brethren.

ESSAY VII.

PROVINGS IN HEALTH.

"A very little *Truth* will sometimes enlighten a vast extent of science."

BEATTIE.

ESSAY VII.[1]

PROVINGS IN HEALTH.

> "But yet these truths being never so certain, never so clear, he may be ignorant of either, or all of them, who will never take the pains to employ his faculties as he should, to inform himself about them." JOHN LOCKE.

IF *drugs* are *remedies* for disease, it is obvious that some means must be used to discover their various properties; in others words, to learn the effects they are severally capable of producing upon the human body. Let us inquire—

I. What have been the means hitherto adopted for this purpose, and the result.

II. What new method has been suggested, and agreed to.

III. How far this new method has been carried out.

I. What have been the means hitherto adopted to ascertain the curative powers of drugs, and what has been the result?

The means hitherto adopted have been *the trial of them in every variety of disease.* Through preceding ages, both medical men and patients have been eager to experiment in this manner, upon the large number of poisonous substances of which the Materia Medica consists.

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[1] First published in 1854.

And what has been the result? If a description of the past and present condition of the Materia Medica, and of the results of the trials or experiments made to discover their power of healing, were given in my own words, I might be suspected of misrepresenting the truth; it shall, therefore, be given in the words of those writers who are most eminent or best known in the profession.

In Essay IX will be found an epitome of the practice of medicine in the words of Cullen, the most distinguished physician of this country of the last age, in which he exhibits, in a striking manner, the doubts and the confusion, the contradictions and the differences of the successive teachers and practitioners of the healing art.

Pinel, one of the most celebrated writers of the Continent of the same period, expresses himself on this subject as follows:—

"La matière médicale n'a été en général qu'un entassement confus de substances incohérentes, et le plus souvent douées d'une efficacité précaire; et rien, peut-être, n'est plus fondé que le reproche qu'on lui a fait de n'offrir qu'un assemblage informe d'idées inexactes, et d'observations puériles ou du moins illusoires."[1]

"The Materia Medica has been nothing but a confused heap of incongruous substances, possessing, for the most part, a doubtful efficacy; and nothing, perhaps, is more just than the reproach which has been attached to it, that it presents only a shapeless assemblage of incoherent ideas, and of puerile or at least of illusory observations."

It is true he goes on to express a hope that modern chemistry will dissipate this sad confusion, but experience has disappointed this hope. No science can operate effectually, except within its own limits, and the science of healing is not, and cannot be made, a chapter in chemistry.

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[1] Pinel, 'Nosographie Philosophique,' 5th edition, page lxxxviii. Paris, 1813.

But it may be said Cullen and Pinel were of a former age; I will therefore, avail myself of the pen of the present living official head of our profession in this country, and in the words of Dr. Paris, the president of the royal college of physicians, give some account of the substances hitherto used as medicines, the mode by which a knowledge of their properties has been acquired, and the estimate made of their value by the physicians of succeeding ages.

Such a method of stating the case cannot in reason be objected to, or be suspected of unfairness; and I ask every professional reader, and it is to my professional brethren that these Essays are primarily addressed, I ask him to put the question to himself as he reads, *is it not true?*

The college of physicians possesses one of the most complete collections of Materia Medica in Europe. "Glancing at the extensive and motley assemblage of substances with which these cabinets are overwhelmed, it is impossible," says, Dr. Paris, in a lecture addressed to the assembled college, "to cast our eyes over such multiplied groups, without being forcibly struck with the palpable absurdity of some—the disgusting and loathsome nature of others—the total want of activity in many—and the uncertain and precarious reputation of all;—or, without feeling an eager curiosity to inquire from the combination of what causes it can have happened, that substances, at one period in the highest esteem, and of generally acknowledged utility, have fallen into total neglect and disrepute;—while others, of humble pretensions, and little significance, have maintained their ground for so many centuries; and on what account, materials of no energy whatever, have received the indisputable sanction and unqualified support of the best and wisest practitioners of the age. That such fluctuations of opinion, and versatility in practice, should have produced, even in the most candid and learned observers, an unfavourable impression with regard to the general efficacy of medicines, can hardly excite our astonishment, much less our indignation; nor can we be surprised to find that another portion of mankind has at once arraigned physic as a fallacious art, or derided it as a composition of error and fraud. They ask—and it must be confessed that they ask with reason—what pledge can be afforded them, that the boasted remedies of the present day will not, like their predecessors, fall into disrepute, and, in their turn, serve only as humiliating memorials of the credulity and infatuation of the physicians who commended and prescribed them?"

Dr. Paris afterwards speaks of "the barren labours of the ancient empirics, who saw without discerning, administered without discriminating, and concluded without reasoning." And, passing to modern times, he declares that we "should not be surprised at the very imperfect state of the Materia Medica, as far as it depends upon what is *commonly called* experience." Ray, he says, "attempted to enumerate the virtues of plants from *experience*, and the system serves only to commemorate his failure; Vogel likewise professed to assign to substances those powers which had been learned from accumulated experience; and he speaks of *roasted toad* as a specific for the pains of gout, and asserts that a person may secure himself for the whole year from angina, by eating a roasted swallow."

"The revolutions," continues Dr. Paris, "and vicissitudes which remedies have undergone, in medical as well as popular opinion, from the ignorance of some ages, the learning of others, the superstitions of the weak, and the designs of the crafty, afford an ample subject for philosophical reflection.

"Iron, whose medicinal virtues have been so generally allowed, has not escaped those vicissitudes in reputation which almost every valuable remedy has been doomed to suffer.

"The fame even of Peruvian bark has been occasionally obscured by the clouds of false theory; some condemned its use altogether 'because it did not evacuate the morbific matter;' others 'because it bred obstructions in the viscera;' others again 'because it only bound up the spirits, and stopped the paroxysms for a time, and favoured the translation of the peccant matter into the more noble parts.' It was sold first by the Jesuits for its weight in silver, (about 1660), and Condamine relates that in 1690 several thousand pounds of it lay at Piura and Payta for want of a purchaser.

"It is well known with what avidity the public embraced the expectations given by Stöerck of Vienna, in 1760, with respect to hemlock; everybody, says Dr. Fothergill, made the extract, everybody prescribed it, but finding that it would not perform the wonders ascribed to it, and that a multitude of discordant diseases refused to yield, as it was asserted they would, to its narcotic powers, practitioners fell into the opposite extreme of absurdity, and, declaring that it could do nothing at all, dismissed it at once as inert and useless."[1]

Nearly the whole of Dr. Paris's two lectures might be quoted, for they proceed in the same strain, but sufficient is given to satisfy any unprejudiced mind.

Every practitioner who has reached, or passed the middle of life, will remember instances in his own experience, of this fickle vicissitude,—this fashionable reputation and capricious oblivion. He will remember, for example, the time when almost every gentleman he met carried white mustard-seed in his waistcoat pocket. He will not have forgotten the similar rise and fall of many other remedies.

That the picture drawn by Dr. Paris is not one of past times only, but is equally true of our own day, is manifest from the perusal of the medical journals of the present moment. Take up, for instance, the last volume of Mr. Braithwaite's 'Retrospect' of these journals, and read the whole, from the opening sentence to the appendix. The volume commences thus:

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[1] Paris, 'Pharmacologia,' Introduction.

—"Dr. Johnson (assistant-physician to King's College hospital) truly observes that on few subjects is there such diversity of opinion as upon the effects of remedies in disease, their modes of action, and the best methods of administering them." And the appendix on cholera is thus introduced :—

"We took some pains in our 20th volume (1849) to collect and arrange the many opinions on Asiatic cholera, both as to its pathology, causes, and treatment, which were published at that time.

"We now add some other opinions which have been published since the epidemic made its appearance in the present year of 1853. But we do not think it necessary again to enter into so minute an analysis as we did before, because we do not perceive that there has been any very material addition to our previous knowledge on the subject, We will, therefore, merely subjoin some of the opinions on the *treatment* of this disease which seem to us to be the most sensible—although we must acknowledge that the difference of opinion has sometimes greatly amused us."[1]

To me it is not amusing, but very painful and melancholy, that, after the earnest and conscientious labours, during thousands of years, of tens of thousands of educated men, all engaged daily in the study and the practice of medicine, such should be the issue! It proclaims loudly that the method pursued must be a faulty one, and that *a better state of things ought to be sought for, not from any imaginable amount of perseverance in the same track, but by discovering, if possible, some new path.*

II. Let us proceed, therefore, to inquire what new method has been suggested and agreed to.

"Primum, *in corpore sano* medela tentanda est, sine peregrinâ ullâ miscelâ; exigua illius dosis ingerenda, et ad omnes quæ inde contingunt affectiones, quis pulsus, quis calor, quæ respiratio, quænam excretiones, attendendum. Inde adductum phænominorum in *sano* obviorum, transeas ad experimenta in corpore *ægroto*."

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[1] Braithwaite, 'Half-yearly Retrospect of Medicine;' July to December, 1853.

"In the first place, *the remedy is to be tried on the healthy body*, without any foreign substance mixed with it; a very small dose is to be taken, and attention is to be directed to every effect produced by it; for example, on the pulse, the temperature, the respiration, the secretions. Having obtained these obvious phenomena *in health*, you may then pass on to experiment on the body *in a state of disease*."

Such was the suggestion of the illustrious Haller, about the middle of the last century. And who was Haller? He has been called the "prince of physiologists," and of him it has been recorded that "no individual, either of ancient or modern times, has equalled him in the extent of his erudition, and the magnitude of his labours. His fame was universal; no person of rank or scientific eminence visited Switzerland without paying their respects to Haller. Foreign countries were alike anxious to gain his services, and to bestow upon him honours."

Here then is a new path discovered and pointed out to us by a man every way worthy of attention. Some of the ancients had made experiments with poisons, but they were undertaken for a different object,—the finding out of *antidotes*. This method seems now for the first time to have been placed before the world as the best means of learning the healing virtue of drugs.

The method met with approbation. Among others, Hahnemann, a German physician then rising into notice, adopts and advocates it earnestly.

"The physician," he says, "whose sole aim it is to perfect his art, can avail himself of no other information respecting medicines than—

"First—What is the pure action of each by itself on the human body?

"Second—What do observations of its action in this or that simple or complex disease teach us?"

He remarks that the last object is partly obtained in the practical writings of the best observers. But so many contradictions occur among the observations thus recorded, that some natural standard is still required, by which we may be enabled to judge of their relative truth and value. Hence the necessity for an answer to the first question—What are the effects produced by a given medicinal substance on the healthy human body?[1]

Many eminent physicians continued, from time to time, to express their concurrence in this method, until at length, in 1842, about a century after its proposal by Haller, it was formally adopted. A public assemblage of medical men, at the Scientific Congress held at Strasburg in that year, announced the adoption of the proposal in the following resolution:—

"The third section (the medical) was unanimously of opinion that experiments with medicines on *healthy* individuals are, in the present state of medical science, of urgent necessity for physiology and therapeutics, and that it is desirable that all known facts should be methodically and scrupulously collected, and, with prudence, cautiousness, and scientific exactness, arranged, written out, and published."

The proving of drugs on the healthy was thus admitted to be not only useful, but of urgent necessity.

III. How far has this new method been carried out?

The plan proposed is this:—Voluntarily to make ourselves ill with poisonous doses of drugs, for the sake of learning, in the first place, upon what organs they act, and the changes they produce on them, and afterwards in what diseases such drugs may be given as remedies. This is a painful path, of indefinite extent, beset with obstacles, and demanding an unknown amount of labour and self-sacrifice. Who has had courage to walk in it? Not Haller himself. He saw, but he did not come, nor conquer. Among the few who early ventured an attempt, the most considerable individual was Stöerck. As Mason Good observes, he engaged himself "in *proving* upon his own person the violent powers of colchicum and stramonium." Some other trials were made, but, to quote again the last-named excellent writer, "a common fate attended the whole of these experiments. From attracting and concentrating the attention of the public, the medicines to which they were directed became equally overvalued; were employed upon all occasions; produced frequent disappointment; and gradually fell into disuse."[1]

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[1] Hahnemann's first Essay on a new principle for ascertaining the curative powers of drugs. 'Hufeland's Journal,' 1796.

In this almost hopeless state of things, with the zeal and courage of a true pioneer, Hahnemann commenced the trial or proving of drugs on his own person, and on those of as many of his friends as he could induce to join him in the difficult and perilous adventure. He had been so dissatisfied with the uncertainty, want of success, and danger of the usual mode of practice, that he had given up his professional duties, and was earning a scanty maintenance by translating books, and by pursuits in chemistry. His active mind busied itself in searching for "an easy, sure, trustworthy method, whereby diseases may be seen in their proper light, and medicines be interrogated as to their special powers, as to what they are really and positively useful for." He must, thought he, "observe how medicines act on the human body when it is in the tranquil state of health. The alteration that drugs produce on the healthy body do not occur in vain, they must signify something. This may be their mode of teaching us what diseases they have the power of curing."

Hahnemann's first trial was with Peruvian bark; he took several scruples, in successive doses, at a time when he was in perfect health, and he was thrown into a feverish condition, which had some resemblance to the kinds of fever for which it has been usual to prescribe this drug as a remedy. Hence again the thought that there must be a direct connection between the disease-producing and the disease-curing properties of drugs; and hence the resolution to try a series of experiments upon himself, to discover the truth or the fallacy of the thought that "likes are to be treated with likes."

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[1] Mason Good, 'Study of Medicine,' vol. 1, Preface.

During a long course of years *all the best-known drugs* were experimented upon in succession, until the morbid effects, which each is capable of producing, were ascertained with more or less exactitude and completeness. The bold and novel undertaking was persevered in with untiring industry, and at the expense of much personal privation and suffering; and had the results been given to us in a narrative detailing them as they were successively ascertained, they would have formed an imperishable monument of an amount of labour and self-denial such as the world has rarely seen.

The praise of having led the way is undoubtedly Hahnemann's. And, notwithstanding the defects in his provings, which it will be incumbent upon us to notice, such is the value of a true principle, they have already guided us to a mode of treating diseases, far more successful than any which was known before.

To facilitate, as he imagined, the use in actual practice of the immense materials he had collected, he invented an artificial arrangement of them, before they were presented to the world. In this scheme or plan, all the symptoms are detached from those originally associated with them, or which occurred in the same experiment, and they are re-arranged according to the anatomical division of the body. For example, all the symptoms affecting the head, *in any number of provers of the same drug*, are put together; then those belonging to the eyes; the ears; the face; the throat; the stomach; the chest; the arms; &c. Hahnemann has given us several volumes thus curiously disjointed; and he has withheld from us the means of arranging them otherwise, by keeping back the original histories of the actual provings.

The dismemberment of the symptoms from their natural groups is a great defect in the provings of Hahnemann; and, along with this lesser fault, there is also another of considerable magnitude. This second great defect has arisen from his anxiety to give a *perfect* picture of the effects produced by the substances under trial, and consists in his having suffered a large mass of insignificant, and often perhaps imaginary sensations, and other trivial matters, to mingle with the real and important symptoms. This error has, like the former, greatly encumbered and confused the representation of the action of the drug; which, had it been avoided, would have been much more clear and instructive. The numerous trivialities thus introduced not only require to be overlooked by the student, but they also form a stumbling block to the inquirer, and a ground of reproach for the opponent.

But if imperfection and error attach to the performance of Hahnemann, shall that be thought surprising? Shall the undertaking itself be condemned because the first attempt has not attained perfection? Doubtless there are defects which blemish this great work of Hahnemann; let it be our endeavour to discover these defects, and to remove them; to perfect the work begun. It is not given to the same age, much less to the same individual, to begin and to complete any undertaking so vast as this. We have seen that the old method, after a most prolonged and diligent trial, has signally failed; we have seen that the proving of drugs upon the healthy has been admitted to be of urgent necessity; we have further seen that the work has been begun, and *there is now no course open to the profession but to carry it on until it is completed.*

To restore the symptoms of each proving to their natural connection with each other; to discard all that are insignificant or imaginary, and all which have arisen from other causes than the drug taken; to connect with the provings the age, sex, constitution, &c., of the prover, the dose of the drug, and its repetition, and the circumstances under which the trial has been made; and, above all, *to discover the true pathological condition produced by the drug, so that the corresponding diseased state for which the drug will prove the best remedy may be more easily recognised;*—is the task of the present and succeeding generations of medical practitioners.

It is admitted that the knowledge we have hitherto possessed, relative to the effects of the substances composing the Materia Medica, is almost worthless. Does any one deny this? If so, upon what grounds?

It is admitted that to obtain an acquaintance with these drugs of more value, their *effects in health* must be learned, by proving them upon ourselves. Does any one deny this? If so, upon what grounds?

It appears that several physicians have begun this difficult undertaking; for example, Stöerck, already mentioned, Dieffenbach and Jörg in Germany; Alexander in Scotland; Chevallier in France; and Beraudi and his three friends in Italy. Some of these were before, some after Hahnemann; none of them homœopathists; but their efforts terminated with unimportant results.

The work was begun and persevered in by Hahnemann, with such an amount of self-denying labour and perseverance as had not been thought of before; and his results exceed in importance every thing which had been accomplished during all the centuries before him.

It is allowed that Hahnemann's provings are not free from errors and defects; but it is contended and this from personal observation and experience at the bedside of the sick, that, notwithstanding these errors and defects, they are of more practical value in the treatment of disease than anything which had been effected by any former physician.

And it is obvious, as it has been remarked already, that the only path now open to professional men in which they can pursue their career with credit, and with any hope of obtaining more power over disease, and consequently of being more useful to their patients, is this method of provings. Is not the old path of experimenting upon the sick shut up,—in the court of reason is it not closed for ever?

The problem to be solved relative to those poisonous substances which are to be used as remedies in disease, is this:—Upon what organs of the body do they act? and what are the changes they produce in these organs? Each drug produces its own peculiar effects, it is therefore necessary that each be experimented upon alone. This was pointed out by Haller:—"The remedy is to be tried on the healthy body *without any foreign substance mixed with it.*" It has been admitted by our best writers. Mason Good observes that "there are some practitioners who think that all the articles which are of real use in the cure of diseases lie within a small compass, and may be learned without burthening the memory. This remark may be allowed to those who are limited to a portable dispensary, as in travelling, or on shipboard; but when uttered under other circumstances, it savours less of wisdom than of indolence. We may easily, indeed, substitute one medicine for another, but it is very rarely [if ever] that we can hereby obtain an integral representative; a remedy possessing not only the general, but the particular qualities of that whose place is supplied, so as to be equally adapted to the exact state of the disease or the express character of the idiosyncrasy."[1]

As then each drug produces its own special morbid effects, and is to be investigated by itself, under what circumstances can this knowledge be acquired? These morbid effects can be discovered in two ways; first, by persons in health taking them voluntarily for this purpose, or *proving* them; secondly, from cases of *poisoning*, whether accidental or intentional.

I will now give a few examples of both these modes of obtaining the required information. They are not adduced as exhibitions of the entire sphere of action of these particalar drugs,—the limits of these Essays do not admit of this,—but as illustrations of the facts which are so valuable as the foundation of an improved method of treating diseases. According to the old method, after having examined a patient, the mental inquiry is, what medicines have done good in similar cases? On the contrary, those who are guided in their choice of a remedy by the principle that "likes are to be treated with likes," ask themselves, what drug produces similar symptoms?

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[1] Mason Good, 'Study of Medicine.'

The cases which follow may be considered as the converse of those given in Essay IV.

CASES.

ACONITUM NAPELLUS.

This plant, besides possessing other healing powers of importance, is now fully established as a most valuable remedy in *simple and inflammatory fever*. It must entirely banish the use of the lancet, the leech, and the blister in such cases.

"Dr. Frederick Schwarz, 29 years old, of sanguine temperament, with unimpaired health, commenced his experiments with three drops of the tincture, and gradually increased the dose until he took 400 drops at once.

"After a large dose (400 drops): Rigor, commencing in the legs, then going to the arms, with goose-skin; great fatigue, indifference, irritability, no appetite, food creates nausea. The rigor continued to increase in the afternoon, and he became icy cold, no coverings suffice to warm him. Afterwards, burning in the eyes, twitching and vision of sparks; roaring in the ears, great sensitiveness to noise. Breath hot, breathing quickened; on breathing deeply, oppression, anxiety, and painful stitches betwixt the shoulders; pulse strong, full, quick. —In the evening, slight perspirations came on; after which nearly all the symptoms went off."

Many other provings give similar symptoms, with decided evidence of inflammation of the brain, the eyes, the mucous and serous membranes, the larynx, the lungs, the heart, and other organs. The symptoms of several of these affections were experienced by the following prover.

Professor Joseph Zlatarovich, 37 years old, robust, stout, dark complexion, of sanguine choleric temperament. He took from 10 to 200 drops of the tincture daily for many days; in sixty-eight days he had taken about 5000 drops, and had symptoms of great severity, such as—

"Shivering for several hours, general feeling of illness, weariness and exhaustion; wandering pains; vertigo and stupefaction; violent headache, as if the head was compressed with screws at both temples; itching and burning in the eyes and eyelids; the eyeballs feel enlarged as if coming out of the orbit; sensitiveness of the larynx to inspired air, as if its mucous membrane were divested of its covering; cough from irritation of the larynx expectoration of gelatinous mucus. Oppression of the chest, with raw pain under the sternum on inspiration; stitches in the lower part of the chest towards the false ribs; violent dry cough; anxiety in the region of the heart; pains in the back and limbs," &c.

Aconite has acted remedially in cholera; it produces an exhaustion of the whole frame similar to that of cholera. In evidence of this fact the painful instance of the late Dr. Male, of Birmingham, may be cited.

"Dr. Male, age 65, who had for two months suffered from pains in the back and loins, took (in 1845) tincture of aconite for four days, beginning with 5 drops, three times a day, and increasing the dose to 6, 8, and 10 drops (taking, in all, 80 drops); on the fifth day the extremities became cold; the surface cold and clammy; pulse 130, feeble; cramps and pains in the legs, and spasmodic pains in the stomach. He died on the 7th day."

Aconite, as before observed, possesses other valuable properties, but in its relation to inflammatory fever (synochus) it stands, at present, unrivalled.

ARSENIC.

This deadly poison has an action upon the human body in many respects the opposite of the preceding drug. The melancholy relations of its poisonous effects are so numerous, that its characteristic properties may be readily gathered from them. It has also been much used as a remedy. Here is a list of cases extracted from the Index to the first 19 volumes of the 'Edinburgh Medical and Surgical Journal;' of course these are diseases treated on the old method; by comparing them with the cases of poisoning which follow, it will be seen on how many occasions the law of similia similibus curantur has been unwittingly adhered to; it is fair to infer that the benefit which has been experienced in such cases has arisen from the homœopathic action of the remedy.

"Arsenic, solution of, used in a case of angina pectoris, (a case of carditis occasioned by arsenic is then given);—its use in ascites;—approved remedy for the radical cure of cancer;—its use in convulsions;—its use in dyspepsia;—its use in elephantiasis;—its use in epilepsy;—its use in curing periodical headaches;—effects in hemicrania;—benefit derived from it in hooping cough;—its use in hypochondriasis;—its use in hysteria;—its use in intermittent fever;—its use in lepra;—its use in megrim;—its use in melancholia;—its use in chronic ophthalmia;—its use in palpitation of the heart;—its use in paralysis;—its use in rachitis;—its use in rheumatism;—its use in scirrhus;—successful in tic douloureux;—successful effects in lock-jaw;—its use in typhus;—useful in phagedenic, and other ulcers;—its use in cases of worms."

It is evident that the prevailing character of these diseases is asthenic, prostration of strength, and a tendency to disorganization and decomposition; brought to a climax in malignant sore throat, gangrene, and

Asiatic cholera; in all of which, as well as in the majority of the cases enumerated above, it has been successfully used by homœopathists.

Dr. Roget records the following case of poisoning in the 2nd volume of the 'Medico-Chirurgical Transactions,' 1811. It exhibits a large number of the characteristic effects of arsenic.

"A girl, aged 19, of a sanguine temperament and delicate constitution, having met with a severe disappointment, purchased 60 grains of white arsenic, strewed the powder on a piece of bread and butter, and ate the whole. In about ten minutes an effort to vomit took place; in about an hour she looked exceedingly pale, felt very ill and hastened to bed; in a few minutes she was seized with violent pain in the stomach, soon followed by severe vomiting; her mother gave her large draughts of warm water, which immediately returned. The vomiting continued, with griping in the bowels, and copious watery evacuations; some florid blood was vomited. Her anguish had now risen to such a pitch that her resolution gave way to the urgent wish for relief, and she acknowledged the cause of her sufferings. The following day she was suffering intense pain at the pit of the stomach, much increased by pressure, with frequent retching and occasional vomiting; the face flushed; respiration hurried and anxious, with frequent hiccup; pulse 120, small and extremely quick; tongue white. At five in the evening, pain in the stomach continued intense (notwithstanding bleeding and a blister), a burning heat in the throat, much thirst, also much pain in the forehead, and intolerance of light; frequent feeling of excessive coldness, particularly in the extremities, although to the hand of another person they appeared to be of the natural warmth. At seven, pulse 140, very cold; on being raised in bed, she fainted for half an hour, with slight convulsions. At eleven, her strength diminished, frequent hiccup, constant burning in the throat and stomach, extremely pale, eyes kept closed from dread of light, pupil contracts slowly. Next morning she is free from pain and sickness, and bears the light better; pulse 112, small; the colour has returned to her lips and cheeks; she is anxious to recover. In the evening the headache is distressing, pulse 120. On the 3rd day vertigo, headache much increased, dread of light again, oppression of breathing, feeling of cold water running down the back, and sense of sinking, pulse 125 and very small. To take camphor, which gave her much relief. The following day the symptoms continued, and on the 5th day they increased, with pain under the margin of the ribs on the left side, constant and severe, and much aggravated by a cough which was increasing in violence. On the 6th and 7th days this state continued, but abated on the latter day, when at night she suddenly went off in a fit, during which she was completely insensible, the left arm and leg agitated with strong convulsions; considerable foaming at the mouth and distortion of the features; the violent symptoms lasted two hours, and the insensibility all night. On the 8th day completely comatose and unable to move, eyes closed, pupils dilated, but contracted on the admission of light; when strongly roused she complained of violent headache, and also of pain in the region of the spleen, which she could not bear to be pressed. On the 9th day she had a convulsive fit at the same hour as the preceding, and continued in a state of torpor. On the 10th day she had a fit which lasted four hours, from which she recovered in my presence, as if awaking from a sound sleep, and declared she felt perfectly well, her only complaint being a violent itching of the skin over the whole body. The convulsions returned in the evening. On the 11th day she had headache, itchiness of the skin, and burning sensation in the throat; the convulsions returned with violence for an hour and a half, when she again awoke free from complaint, excepting a violent itching of the nose, and a numbness in three of the fingers on the right hand. On the 12th and following days the convulsions still returned during sleep, but gradually became milder, and at length amounted only to irregular twitchings of the tendons; in another week these had left her, and her strength a good deal returned, but she continued to suffer from occasional flatulence, oppression of the stomach, and difficulty of breathing."

I have endeavoured to abridge this case, but it is so full of instruction, in the successive changes in its symptoms, representing so well so many distinct morbid conditions, that it can scarcely be studied too much.

The following case, given by Dr. Christison, in his work on 'Poisons,' extends the picture of the characteristic features of arsenic:—

"On two successive evenings, immediately after taking some gruel, Mr. Blandy was attacked with pricking and burning of the tongue, throat, stomach, and bowels, and with vomiting and purging. Five days after, when the symptoms were fully formed, he had inflamed pimples round his lips, and a sense of burning in the mouth; the nostrils were similarly affected; the eyes were bloodshot, and affected with burning pain; the tongue was swollen, the throat red and excoriated, and in both there was tormenting sense of burning; he had, likewise, swelling, with pricking and burning pain of the body; excoriations and ulcers; vomiting and bloody diarrhœa; a low tremulous pulse; laborious respiration; and great difficulty in speaking and swallowing. In this state he lingered several days, and died nine days after the first suspected basin of gruel was taken."

The next case is from Mr. Braithwaite's 'Retrospect' for 1852:—

"Dr. Maclagan was requested to see Margaret Davidson, aged 35, on the 4th of November, 1851, she having, at three o'clock p.m., taken a desert-spoonful of powdered arsenic, in mistake for a saline effervescing powder. No effects were produced for half an hour, she was then sick; at seven o'clock she presented all the usual symptoms. Magnesia was administered, which was generally vomited as soon as swallowed. November 5th.—Has vomited all night and still does so; has had diarrhœa; suppression of urine; she lies in a drowsy, torpid condition, eyes sunk; face blue, and, like the extremities, cold and clammy. *She presents the most perfect resemblance to a case of Asiatic cholera in the stage of collapse.* From this state she slowly rallied, and on the 12th had extensive bronchitis over the whole of both lungs, from which she ultimately recovered."

With one more case the picture will be more complete. It is from Taylor's 'Medical Jurisprudence:'—

"A young woman procured a lump of arsenic. She began by biting it, and then broke it up into coarse fragments, put them into a glass of water, and swallowed them. This was in the morning, and she went the whole day without uneasiness. In the evening there were no febrile symptoms; at eight o'clock she suffered from pain in the abdomen; at eleven she appeared to be more calm than ever, and had a strong desire to sleep; at three in the morning she sat up in her bed, complained a little of her stomach, and then died without the least appearance of suffering."

The quantities of the poison taken in these cases were excessively large; three or four grains being, in many cases, sufficient to cause death.

ATROPA BELLADONNA.

This also is a deadly poison. It has been extensively employed as a remedy for neuralgic affections, such as tic douloureux; for epilepsy and mania; for hydrophobia; for cancerous affections; by Hahnemann it has been recommended both as a remedy for, and a preservative from, scarlet fever, and also in some inflammatory diseases, as of the throat, eyes, brain, &c. The organs upon which it primarily acts are the brain, and nervous system; the eyes; the throat; and the skin; as is apparent from the following cases of poisoning.

In the 'London Medical and Physical Journal,' vol. lvii, are two cases by Mr. Smith, of Forres, N.B.:—

"Nov. 5th, 1827.—At five p.m. I was called to see two of Mr. M——'s children, both boys, the one four, the other two years of age. They had eaten the berries of the Atropa belladonna from a bush in the garden. It appears to have been between one and two o'clock, for soon after two the elder boy went to school, where the symptoms made their appearance. When taken up to his lessons he did not speak, but laughed immoderately, and grasped at imaginary objects; he had previously complained of pain in his head. He was now sent home, where the laughing continued, and he was as talkative as he had before been silent, but he was altogether incoherent; added to this, he was in constant motion, running round and round the room. I found him laughing and talking alternately; he was kept on the knee, but the extremities were in violent and almost constant action; the eyes fixed, and the pupils fully dilated, and insensible to the light of a candle. The same symptoms manifested themselves in the younger boy, and were now fully as violent. Emetics and castor oil were administered. Notwithstanding this treatment the symptoms became worse; the muscular movements stronger and incessant, the breathing noisy and with a croupy sound, and occasional cough; their faces were swollen and red; incoherent talking continuing; the skin became cold; pulse, barely perceptible in the beginning, now not felt at the wrist; there was lock-jaw. They were put into warm baths, and rubbed with flour of mustard. They gradually became warm, and the pulse more distinct. This state of collapse returned on the following day more than once, and the same means were used. On the 7th they began to distinguish objects, (they had been quite blind,) and to speak and act rationally; pupils were still much dilated, and eyes red; the younger child has had a rash, which disappeared on the second day. They were freely purged, which brought away the skins of the berries. From this time they continued to mend. The noisy, croupy cough continued longest; and when the elder boy has a cold, the cough is still, (at a distance of six years,) of the same nature. A third boy, who had eaten the berries with them, was in the hands of another practitioner, with a like result."

The following case is from the 'Edinburgh Medical and Surgical Journal,' vol. xxxi, 1828:—

"A gentleman who had been accustomed to take occasionally a purgative mixture containing 46 grains of jalap, sent to his apothecary, instead of his physician's French recipe, a translation of it by himself in Latin, in which he had used the word belladonna as the proper equivalent for the French name of jalap, *belle-de-nuit.* The mixture was faithfully prepared according to the formula, and taken by the patient about six in the morning. The first effect was most violent headache, commencing about an hour afterwards, affecting chiefly the orbits, and accompanied ere long with excessive redness of the eyes, face, and subsequently of the whole body. In a few minutes the entire skin presented a uniform redness, *exactly like that of scarlatina.* The patient was also affected at the same time with intense redness of the throat, and great heat, which seemed to spread throughout the whole alimentary canal; he had also extremely painful irritation and suppression of the secretion of the kidneys. Twenty leeches were applied, and he experienced much relief in the course of a few hours. He passed a quiet night, and next morning complained only of a general feeling of discomfort. M. Jolly, the relator of this case, states that he has repeatedly seen the powder and extract of belladonna cause a similar scarlet efflorescence." — 'Nouvelle Bibliothêque Médicale,' Juillet, 1828.

In the 'Medicinishche Jahrbücher des k. k. Oesterrcichischen Staates,' 1832, some cases are related, which add the symptoms of hydrophobia to the picture drawn in the preceding histories:—

"A man, accompanied by his son, aged nine years, walking one afternoon in the woods, and seeing the branches of belladonna bearing black and brilliant fruit, resembling wild cherries, gathered some for his son, who ate them freely on account of their sweetish taste ; he also ate ten berries himself, and carried home a large quantity for his other children. Another son, not quite five years old, ate a great number ; two elder daughters ate less. All went to bed afterwards, apparently well. All were taken ill ; in the two boys the symptoms of poisoning appeared in all their force ; restlessness and delirium, attempts to escape, so that they were constantly obliged to be forcibly confined to their beds ; continual motions of the hands and fingers, and desire to lay hold of the coverings ; acute delirium, but the wanderings only on lively subjects ; actual vision almost gone, but at the same time both the boys fancied they beheld a crowd of objects ; extreme dilatation and insensibility of the pupils ; the eyeballs alternately fixed and rolling ; spasmodic actions of the muscles of the face ; grinding of the teeth ; yawning ; voice hoarse and weak ; slight swelling of the left side of the throat, and burning sensation in the œsophagus, (in the elder of the two boys) ; decided aversion to all sorts of liquids in both, and spasmodic attacks whenever they were forced to swallow anything. The symptoms presented, as will be seen, some analogy to *mania* (delirium without fever), for the vascular system was neither locally nor generally excited, and the respiration was not sensibly disturbed."

The provings which Hahnemann has given us of belladonna contain fourteen hundred and forty symptoms. Its continued daily use in homœopathic practice testifies to its admirable powers as a remedy.

CARBONATE OF AMMONIA.

This salt (sal volatile) is daily had recourse to as a stimulant and antispasmodic, either as applied to the nostrils, or taken internally, diluted with water. Its immediate, temporary effect is relied upon for these purposes ; when taken in excess it acts as a very powerful poison ; several cases of death caused by it are on record — one, reported by Dr. Christison, "where a strong dose of the solution killed a man in *four minutes*." When taken in smaller quantities and repeatedly, it has a penetrating action upon the constitution, very different from that of aconite, arsenic, or belladonna, but equally characteristic. This action points it out as the most valuable remedy in similar cases of disease; for example, in that bad form of scarlet fever, where the rash appears only partially, or soon recedes, the throat is ulcerated, and the strength rapidly fails; a form which is commonly fatal, and for which belladonna is not at all adapted. I have seen carbonate of ammonia apparently save life under such alarming circumstances.

Hahnemann tells us that this drug was proved by himself, and by Doctors Hartlaub, Gross, Stapf, Trinks, and Schreter. The following case, from an old author, John Huxham, gives, in few words, a very striking picture of the diseased condition which is characteristic of this poison, and to which it corresponds as a remedy:—

> "I had lately under my care a gentleman of fortune and family, who so habituated himself to the use of vast quantities of the *volatile salts* that ladies commonly smell to, that at length he would eat them, in a very astonishing manner, as other people eat sugared caraway seeds;—a *δριμυφαγεία* with a vengeance! The consequence soon was that he brought on a hectic fever, vast hemorrhages from the intestines, nose, and gums, every one of his teeth dropped out, and he could eat nothing solid; he wasted vastly in his flesh, and his muscles became as soft and flabby as those of a new-born infant; and broke out all over his body in pustules, which itched most intolerably, so that he scratched himself continually, and tore his skin with his nails in a very shocking manner; the secretion of the kidneys was always excessively high coloured, turbid, and very fetid. He was at last, with great difficulty, persuaded to leave this pernicious custom, but he had so effectually ruined his constitution that, though he rubbed on in a very miserable manner for several months, he died tabid, and in the highest degree of a marasmus."[1]

* * *

This Essay commenced with the remark that if drugs are to be used as remedies for disease, some means must be adopted to discover their healing powers. *The observation of the effects of these drugs in health* is the best method for this purpose hitherto made known.

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[1] Huxham's Works, p. 308.

The pictures of these effects given in the latter pages have no pretensions to be perfect; they are merely sketches,—offered as illustrations. Among the omissions are the moral symptoms, these forming a subject too extensive to be entered upon in this Essay. The details given are sufficient to explain what kind of materials are required; how they are to be obtained; and the valuable use which may be made of them in the treatment of disease according to the principle now under investigation.

ESSAY VIII.

THE SINGLE MEDICINE.

"So that he saw plainly that opinion of store was a cause of want."

LORD BACON.

ESSAY VIII.[1]

THE SINGLE MEDICINE.

> "More is in vain when less will serve, for nature is pleased with simplicity." SIR ISAAC NEWTON.

TRUTH was well feigned by the ancients to lie at the bottom of a well. The progress which mankind has made in the discovery of truth has been remarkably slow. The department of magnetism may serve as an illustration of this fact. The *attraction* of magnetic iron was known to the ancients, but nothing more; its *polarity* was not known, at least in Europe, till 1180, when it was first described by Guyot; the practical application of this property to navigation in the *mariner's compass* lingered till about 1260; the *variation* in the direction of the magnetic needle in different parts of the earth was unknown till 1500, when it was discovered by Sebastian Cabot; the *dip* of the needle remained a secret till noticed by Robert Norman in 1576; two centuries and a half elapsed before the *changed direction* of the needle by a current of electricity was discovered by Œrsted in 1819; which fact, it is well known, has now been applied practically in the *electric telegraph*. It is evident from these particulars that in this, as in many other branches of natural knowledge, the advancement, though slow, is real; there is the great encouragement that *progress is being made;* but in the department of medicine *this encouragement has hitherto been wanting.* From time to time experienced physicians have not been backward to acknowledge that little improvement, worthy of the name, has taken place in the practice of physic, since the days of Hippocrates, a period of about twenty-three hundred years.

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[1] First published in 1854.

The almost stationary condition of the science of medicine has arisen, not only from the natural impediments to the discovery of truth, and from the difficulties peculiar to this subject, but still more from the want of simplicity in the method pursued.

This method has been defective in two principal particulars, by which the progress of knowledge in the treatment of disease has been effectually hindered. One of these defects has been the trial of a drug only during the existence of disease, by which its effects are complicated and obscured; instead of first experimenting with it on the body in a state of health, when its own symptoms would appear, unmixed with those of disease. The other equally great defect has been the giving of the drug in combination with others, by which its effects are still further complicated and obscured, if not altogether antidoted and prevented; instead of administering it alone, so that its specific action might be produced without let or interference. Had physicians adopted these two proceedings,—experimenting in health, and giving the medicine singly in disease,—the real properties of each drug might have been, ere this, accurately ascertained.

The first of these defects in the practice of physic was discussed in the last Essay. The second remains, to be the subject of the present. It is necessary to establish—

THE FACT OF COMBINATION.—All drugs being poisons, it might have been anticipated that, in using them as remedies, the plan to be adopted would have been to try cautiously each one by itself; in the hope that, by so doing, some positive knowledge might be obtained respecting its medicinal virtues. This knowledge once had, would be serviceable to all future ages, and a stepping stone to further advances. But the fact has not been so; the plan universally adopted has been that of combining several of these drugs together, and administering them to the sick thus combined.

The mixing and combining of many drugs in one prescription, has indeed given "an opinion of store" of virtues; but by this method it has been impossible to discover the distinguishing properties of any of the substances so employed, and, consequently, our acquaintance with the Materia Medica has been kept in confusion and poverty;—and thus this opinion of store has been eminently "a cause of want."

The extent to which the accumulation of remedies in a single prescription has been carried would be incredible, were it not a fact readily ascertained. Not to notice the extreme cases which have been recorded, such as the one mentioned by Dr. Paris, of four hundred ingredients entering into the composition of a single mixture, two very celebrated medicines as prescribed in the London Pharmacopœia of the Royal College of Physicians, shall be given as examples;—the *Theriaca Andromachi* or *Venice treacle*, and the equally world-famed remedy called *Mithridate*. The former, as given in the Pharmacopœia of 1682, contains sixty-five ingredients; the latter, in the Pharmacopœia of 1782, consists of fifty articles as follow:—

Venice Treacle.

℞ Squill lozenges, ʒviij;
Lozenges of vipers (flesh & broth),
Long pepper,
Opium,
Lozenges of hedychroum āā ʒxxv;
Red roses,
Illyrian orris-root,
Liquorice-juice,
Navew seeds,
Shoots of scordium,

Mithridate.

℞ Arabian myrrh,
Saffron,
Agaric,
Ginger,
Cinnamon,
Spikenard,
Frankincense,
Seeds of penny-cress, āā ʒx;
Cicely,
Opobalsamum,
Sweet rush,
French lavender,

Venice Treacle.

℞ Balm of Gilead,
Cinnamon,
Agaric in lozenges, āā ʒxij ;
Myrrh,
Spikenard, or zedoary,
Saffron,
Wood of the true cassia,
Indian nard,
Camel's-hay,
White pepper,
Black pepper,
Frankincense,
Dittany of Crete,
Rhubarb,
French lavender,
Horehound,
Parsley,
Macedonian stone-parsley,
Parsley-seed,
Calamint (dried),
Cinquefoil-root,
Ginger, āā ʒvj ;
Carrot of Crete,
Ground pine,
Celtic nard,
Amomum,
Storax,
Root of meu,
Germander,
Pontic valerian,
Terra Lemnia,
Indian leaf,
Green vitriol,
Gentian-root,
Gum arabic,
Juice of hypocistis,
Carpobalsamum,
Seeds of anise,
" of cardamoms,
" of fennel,
" of cicely,
Gum acacia,
Seeds of penny-cress,
Tops of St. John's wort,
Seeds of bishop's-weed,

Mithridate.

℞ Costum,
Galbanum,
Cyprian turpentine,
Long pepper,
Castor,
Juice of hypocistis,
Storax,
Opoponax,
Indian leaf, āā ℥j ;
True cassia wood,
Poly of the mountain,
White pepper,
Scordium,
Seeds of the Cretan carrot,
Carpobalsamum,
Lozenges of cyphus,
Bdellium, āā ʒvij ;
Celtic nard (purified),
Gum arabic,
Seeds of the stone-parsley,
Opium,
Lesser cardamoms,
Fennel-seeds,
Gentian,
Flowers of the red rose,
Dittany of Crete, āā ʒv ;
Seeds of anise,
Asarum,
Sweet-flag,
Orris-root,
Phu,
Sagapenum, āā ʒiij ;
Meu,
Acacia,
Skunk-bellies,
St. John's-wort tops, āā ʒij ;
Canary wine enough to dissolve the gums and juices, *i.e.* about ℥xxxvj.
Clarified honey, three times the weight of all the rest, excepting the wine, mix and make into an electuary, *secundum artem.*

Venice Treacle.	*Mithridate.*
℞ Sagapenum, āā ʒiv ; Castor, Root of birthwort, Jew's pitch (or amber), Seeds of the carrot of Crete, Opoponax, Lesser centaury, Thick galbanum, āā ʒij ; Canary wine (old), ℥xl ; Clarified honey, (triple weight of the powders), mix and make into an electuary, *secundum artem.*	

Such was the condition of the Pharmacopœias of the seventeenth and eighteenth centuries; and though those of the nineteenth century have made great advances towards a comparative simplicity, so that the "luxuriancy of composition," so much inveighed against by Cullen, may be said to exist no longer, the radical error still remains; prescriptions are still notoriously *compound.* Very rarely is a remedy given alone, very rarely, therefore, can any precise knowledge of its properties be discovered, or the full benefit of its action on disease be obtained. We proceed to notice—

THE THEORY OF COMBINATION.—The practice of mixing drugs is not only continued, but defended. The 'Pharmacologia' of Dr. Paris, a book which has been very popular with the profession in Great Britain, is an elaborate treatise "on the theory and art of medicinal combination." The volume opens, (after an introduction,) with this sentence;—"It is a truth universally admitted that the arm of physic has derived much additional power and increased energy from the resources which are furnished *by the mixture and combination* of medicinal bodies."

For example;—

"*Emetics* are more efficient when composed of *ipecacuan* united with *tartarized antimony* or *sulphate* *of zinc*, than when they simply consist of any one of such substances in an equivalent dose."

"*Cathartics* not only acquire a very great increase of power by combination with each other, but they are at the same time rendered less irritating in their operation."

"*Diuretics.* Under this class of medicinal agents it may be noticed that whenever a medicine is liable to produce effects different from those we desire, its combination with similar remedies is particularly eligible."

"*Diaphoretics.* Our maxim 'vis unita fortior,' certainly applies with equal truth and force to this class of medicinal agents."

"*Narcotics.* The intention of allaying irritation and pain will be better fulfilled by a combination of these substances in different proportions, than by any single one, notwithstanding its dose be considerably increased."

It is admitted that it is better not to mix *Stimulants*, and it is remarked that "by multiplying the number of ingredients too far, we shall either so increase the quantity and bulk of the medicine as to render it nauseous and cumbersome, or so reduce the dose of each constituent as to fritter away the force and energy of the combination. There is also another important precaution which demands our most serious attention, that in combining substances in the manner, and for the object just related, the practitioner should be well satisfied that their medicinal virtues *are in reality practically similar, or he will fall into an error of the most fatal tendency*."

Such is the leading feature of the theory of combination; the difficulties and dangers of which, as hinted at in the last paragraph quoted from Dr. Paris, are so many and so great as to destroy all confidence in its value. But the practice founded upon it is so general that it is needful to consider—

THE EVILS OF COMBINATION.—One of these I have already alluded to; it is evident that the mixing of different drugs, and administering them together, must hinder the discovery of their respective properties. Our knowledge must continue to be ignorance, as long as this practice continues to be pursued. It is then a serious evil which attaches to the usual method of prescribing that it is—

A bar to progress. It is an observation of Boyle that "there is no one thing in nature whereof the uses to human life are yet thoroughly understood." How true soever this may be in reference to other matters it is truer still in reference to medicines. There is not a single drug of which it can be said that the characteristic properties, and the fitting uses, are thoroughly known; and as long as these drugs are given only while disease is present, and only in combination with each other, it is evident that their properties and uses can never be really understood. How urgent then the call for a new method, if we would not have our present ignorance indefinitely prolonged!

A hindrance to the curative action of drugs is another evil of combination. On this subject I need not do much more than quote Dr. Paris.

"Simplicity should be regarded by the physician as the greatest desideratum. I was once told by a practitioner in the country, (Dr. Paris might have added, that there are practitioners in London also, who act upon the same plan,) that the quantity, or rather the complexity of the medicines which he gave his patients, for there never was any deficiency in the former, was always increased in a ratio with the obscurity of their cases; 'if,' said he, 'I fire a great profusion of shot, it is very extraordinary if some do not hit the mark.' A patient in the hands of such a practitioner has not much better chance than a Chinese mandarin, who upon being attacked with any disorder, calls in twelve or more physicians, and swallows in one mixture all the potions which each separately prescribes!

"Let not the young practitioner however be so deceived; he should remember that unless he be well acquainted with the mutual actions which bodies exert upon each other, and upon the living system, (which no one, as yet, is acquainted with,) it may be laid down as an axiom, that *in proportion as he complicates a medicine, he does but multiply the chances of its failure.* Superflua nunquam non nocent: let him cherish this maxim in remembrance, and in forming compounds, always discard from them every element which has not its mode of action clearly defined, and as thoroughly understood."

Yes; let the young physician follow the advice here given by Dr. Paris, (the living official head of our Profession in this country), and cherish this maxim in remembrance; and he will infallibly be led to prescribe *but one medicine at a time;* for of no *compound* can it be said that its mode of action is either clearly defined, or thoroughly understood.

An injury to the patient is also by no means an unfrequent evil resulting from the prevailing practice of mixing drugs together, and thus complicating, often beyond control, their operation on the living body,—sometimes until it lives no longer. "The mildest remedy," says Dr. Paris, "may thus (by injudicious combination) be converted into *an instrument of torture, and even of death.*"

That patients often suffer serious injuries from drugs is, unhappily, a fact too notorious to require proof. Dr. Routh, the present president of Magdalen College, Oxford, who has entered his hundredth year, takes pains to impress upon his friends the axiom of Lord Bacon, that "medicines shorten life," and bids them beware how they meddle with such injurious substances.

It is not unusual now, when a patient has been cured under homœopathic treatment, for physicians to attempt to turn the force of such evidence in favour of homœopathy, by remarking that "*the patient has got well by leaving off medicine!*" But what a satire upon themselves is such an admission as this! Are they really conscious then that the medicines they are so eager to prescribe from day to day, and for the continuance of which they contend so earnestly,—are they conscious that these medicines *prevent* the recovery of their patients? Are they content that the matter should be thus viewed by the public? That the effect of taking their prescriptions is to lengthen out disease—to prolong the patient's sufferings? Are they so driven into a corner by the evidence in favour of homœopathy, that they have no better weapon to defend themselves with than such an argument as this?

We proceed to consider the method now proposed of using—

A SINGLE MEDICINE AT A TIME.—Each drug has a mode of action peculiar to itself, often called its specific action; to obtain the full benefit of this action, it must be given alone; any combination must necessarily interfere with, and may altogether neutralize the effect we wish to obtain.

It is most plain that when we speak of a drug being thus given alone, we mean the drug as it usually exists in nature, and especially must it be in the same state as that in which it has been previously *proved* in health. The various solids;—the metals for example, and the metallic oxides, lime, silica, alumina, sulphur, and saline bodies, the resins, the seeds and other solid parts of plants; the various liquids;—the mineral acids for example, and the vegetable juices, furnish a vast array of drugs for medicinal purposes. Each of these, in its turn, can be experimented upon by itself in health; and, in like manner, each, in its turn, can be given as a remedy in disease. Whether in chemistry these various substances are at present considered elements or compounds, can have no bearing upon their therapeutic use. The consideration of their chemical nature and properties is quite another matter, and though very important and interesting in itself, and with reference to chemical science, can neither help nor hinder much in respect to their action upon the living body as poisons or remedies. In saying this let me not be misunderstood, or be supposed to depreciate chemistry, or its legitimate application to pharmacy, or to any other collateral branch of knowledge. I am myself fond of chemistry, and gladly avail myself of any help it can render to medicine; what I wish to remark at present is, that *the use of a drug simply and alone*, either in proving it in health, or in prescribing it in disease, has no reference, and it is plain *can have no reference to the light in which such drug is viewed by the chemist.*

It might be safely asserted that nothing can be more conspicuously apparent than this; what then must be the character of the opposition to homœopathy, when a learned professor, and the most considerable writer on the subject, is compelled to have recourse to the following statement as an argument against homœopathy?

Professor Simpson quotes from the 'Organon' of Hahnemann, " In no case is it requisite to administer more than one single, simple medicinal substance at one time," and then says, "but in few or no instances can the homœopaths, if they follow their own laws, give a single substance as a medicine at one time. Take one drug as an example of this remark. Opium, according to Jahr, is in homœopathic practice, 'a medicament frequently indicated' in disorders of various kinds. Opium, however, is not a simple substance; but on the other hand, it is extremely composite in its character, according to the researches of many excellent chemists. 'It contains,' says Christison, 'no fewer than seven crystalline principles called (1) morphia, (2) codeia, (3) paramorphia, (4) narcotin, (5) narceïn, (6) porphyroxin, and (7) meconin, of which the first three are alkaline, and the others neutrals; secondly, a peculiar acid termed (8) meconic acid, which constitutes with sulphuric acid, the solvent of the active principle; and thirdly, a variety of comparatively unimportant ingredients, such as (9) gum, (10) albumen, (11) resin, (12) fixed oil, (13) a trace perhaps of volatile oil, (14) lignin, (15) caoutchouc, (16) extractive matter, and numerous salts of inorganic bases.' Of these inorganic salts and substances in opium, Schindler, in his analysis, detected among others, (17) phosphate of lime, (18) alumina, (19) silica, (20) magnesia, (21) oxide of iron, &c. Homœopaths, in using therefore this 'frequently indicated' medicament—opium, employ a preparation, which is certainly not single, but consists, at least of some twenty different substances."[1]

When Essay III, "The Controversy on Homœopathy," was written, the best work which, up to that period, had appeared in England against homœopathy, —Dr. C. F. Routh's "Fallacies," was selected. When Dr. Simpson's book appeared, I thought it would demand a reply, but after reading it, the conviction was felt that it did not deserve one, and even my brethren of the old practice will admit that I stand excused in this feeling. A writer who cannot distinguish between the single medicine of the homœopathists, and the elements, organic and inorganic, of the modern chemist; or who is so disingenuous as knowingly to attempt to confound them in the minds of his readers, is unworthy of notice. I will not take upon myself the duty, which belongs to Dr. Simpson's conscience, to decide upon which of the horns of this dilemma he deserves to be impaled; but it is difficult to suppress a feeling of indignation, which involuntarily rises on reading this passage, in an author of such pretensions, and professing to be seriously discussing the merits of a new method of treating the maladies of mankind.

In homœopathy the giving of only one medicine at a time is a matter of necessity. The law cannot be otherwise applied. Let me now endeavour to point out—

THE ADVANTAGES OF THIS METHOD.—From these advantages it will appear that the objects acknowledged to have been sought for, but which are unattained, and, it may fairly be presumed, are unattainable in the common mode of treating diseases, are not only put within reach, but are actually accomplished by the new treatment.

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[1] 'Homœopathy; its Tenets and Tendencies,' by Dr. Simpson, Professor of Midwifery in the University of Edinburgh, &c., p. 47, 1853.

The simplicity, in vain desired by Dr. Paris for his method, is thus obtained. A small dose of a single medicine is to be administered, and time allowed for its effects to be produced, before either another dose is given or another medicine is tried. The simplicity which the law of homœopathy has introduced into the prescriptions of the physician is worthy of great admiration;—the one is a necessary consequence of the other. "So far," says Sir John Herschel, "as our experience has hitherto gone, every advance towards *generality* has, at the same time, been a step towards *simplification*." It deserves to be noticed, how great a step in this direction has been taken in the present instance.

The progress in vain waited for on the old method is rendered inevitable by the new one. The ignorance on the subject of the properties of drugs which has prevailed for so many centuries, will no longer continue; a much more extensive and correct knowledge of them has already been acquired, and this knowledge will be daily extended. How interesting it is to collect accurate details of the effects of drugs when acting as poisons; and how satisfactory to observe their curative action in corresponding natural diseases! There is now everything to reward, and therefore everything to encourage, the diligent study of the properties of drugs; and this study cannot be diligently pursued, aided as it now is by so simple and precise a method, without yielding the fruits of progressive knowledge. Take, for instance, a plant like aconite, or belladonna, or pulsatilla, or ipecacuanha, and contrast the knowledge of it which the homœopathist now possesses with what was known of it before; and let it be remembered that, in a few years, every remaining drug may be equally well, or even better understood.

The curative effect of each drug, often in vain expected when other drugs are mingled with it, may be looked for with a great degree of certainty, when it is given alone in an appropriate dose.

It is Dr. Paris who asserts that "the file of every apothecary would furnish a volume of instances, where the ingredients are fighting together in the dark, or at least, are so adverse to each other, as to constitute a most incongruous and chaotic mass :—

> "Obstabat aliis aliud : quia corpore in uno
> Frigida pugnabant calidis, humentia siccis,
> Mollia cum duris, sine pondere, habentia pondus."
> OVID.

This error can be avoided only by resorting to the method of prescribing each remedy singly. There can then be no neutralizing, or counteracting, or antidoting effects ;—no "fighting together in the dark," so aptly described, and so ingenuously confessed by Dr. Paris. It is true this description is intended to apply only to the prescriptions of certain ill-informed or careless practitioners ; but, though not intended to do so, it really applies, with more or less force, to every mixture or combination of drugs.

On the other hand, the single medicine meets with no impediment (at least none from other medicines), to the production of its full effect. Suppose, for example, that the action of mercury is required on an ulcerated throat, or on the salivary glands in a case of mumps ; if given alone, a very minute quantity will almost certainly act. The same may be said of any other drug ; its specific effect will be produced by the small dose, if given alone, with much more precision and certainty, than by the large dose, if given in combination. When the small dose is used, as there is no need to combine with it the "adjuvans" to assist, nor the "dirigens" to direct, so neither is there need of the "corrigens" to prevent mischief. *Soap* need not be added to *aloes* and *jalap* to "mitigate their acrimony ;" nor need patients be ordered to drink vinegar, to prevent their being poisoned by sugar of lead, given to stop a bleeding from the lungs.

The diminution of the dose in vain attempted while several drugs are combined, is accomplished to an extent beyond all anticipation, by giving each drug alone. It may be true that by adding *tartar emetic* to *ipecacuanha* vomiting is produced by a smaller quantity of each, than would be required of either of them separately; but the combined dose is not only still large, but so large as not to be secure from doing mischief. The same may be said of the purgatives, expectorants, diaphoretics, quoted from Dr. Paris. With our present knowledge, such proceedings cannot escape being viewed as barbarous; these violent effects of medicines being altogether needless, while the specific action of the drug, the effect which is really of value in the treatment of disease, can be best obtained by a very small dose. All drugs being poisons, not only is "more in vain," but more is positively injurious, "when less will serve."

The indications of treatment, in vain sought after on the old method, are not only precise and unmistakable on the new, but, as the medicines, so also the indications *are reduced to one.*

The single remedy obliges the single indication; for if only one medicine is to be given, there can be but one indication to point it out; and, if possible, the single indication is a greater simplification, and a greater advantage than the single remedy. In the treatment of disease on the usual method, even when the symptoms are simple and uniform, or consistent with each other, the supposed indications are generally more or less complicated; in cases of more extensive derangement, they are still more numerous, and sometimes even contradictory. The perplexity and anxiety to the physician, and the additional pain and exhaustion to the patient, which are the natural results of this complication, are often greater than can readily be described. In illustration, a case of the simplest kind may be taken. For example, laryngismus stridulus, child-crowing, or spasmodic croup, an affection of considerable danger, to which some infants are very subject, and consisting mainly of a distressing struggle for breath, coming on suddenly, and producing a flushed and swollen countenance, which becomes sometimes almost black, threatening suffocation.

The indications for treatment are copied from Mason Good; of whose book it has been said, by a late president of the royal college of surgeons, and the most useful writer on surgery of the present day, "it is so excellent that no other modern system is, on the whole, half so valuable as the 'Study of Medicine.'" The indications are these:—to produce vomiting by an antimonial emetic; to cause perspiration by a warm bed, diluent drinks, and the same medicine; to excite the bowels by a purgative of calomel; to allay the irritability of the nervous system by giving laudanum in proportion to the age of the patient; and to produce counter-irritation by applying a blister to the throat.

This is a fair specimen of allopathic treatment, let us analyse it for a moment, bearing in mind that the age of the little sufferer is generally *only a few months;* and that the ailment is an affection of the upper part of the windpipe, producing such a contraction of it as threatens suffocation, *all the other parts of the body being healthy*. We cannot but be struck, in the first place, with the terrible severity of the treatment, which alone is sufficient, not only to expose it to just censure, but to demand its abandonment; and in the next place, with the fact that all the indications of treatment are direct and violent attacks upon *the healthy parts of the body*. "Produce vomiting by an antimonial emetic;"—here is an attack upon the stomach, but the stomach was previously in health, why produce such a commotion in it, in a baby three or four months old? "Cause perspiration by a warm bed, diluent drinks, and the antimony." Here the skin is assailed, and its natural secretions are to be unhealthily stimulated; the skin was previously in a sound condition, why interfere with and derange that state? "Excite the bowels by a purgative of calomel." The others were but the wings of the invading army,—this is its centre. The poor bowels are always destined to bear the fiercest part of the "energetic" assault. And calomel too — that destructive weapon in the bowels of an infant, and these bowels previously in perfect health. The liver does not escape; mercury, it is well known, acts powerfully on this organ. The calomel given in infancy not unfrequently produces, as its secondary effect, a torpor of the liver, which lasts for years, it sometimes destroys altogether the constitution of the child. "Allay the irritability of the nervous system by giving laudanum in proportion to the age of the patient." The effect of opium is to stupify or deaden the sensibilities of the whole nervous system, — if pushed far enough, to produce coma and apoplexy. In this case it must depress the vital powers at the moment when their vigour is needed to struggle with the difficulty of breathing. And why assault thus the whole nervous system, as yet remaining in health? "Produce counter-irritation by applying a blister to the throat." Alas! poor baby,—the unoffending skin is to be inflamed until it blisters! And this is the concluding blow for the present, of a treatment which is called "judicious" and "active" because it is customary; but will it bear investigation?

Thus every *healthy* part of the body is to be disturbed in its natural action, to be excited, disordered, inflamed, and stupified; all these ailments, necessarily more or less overpowering to the vitality of a child, are to be artificially produced, and added to the natural disease with which the infant is already contending![1]

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[1] During the twenty years which have passed since this Essay was written, great changes have taken place in the practice of medicine among the leading members of the profession. Whether these changes are to be attributed to the influence of homœopathy, or to other causes, they are surprisingly in contrast to the older practice—to that which still prevails among a large number.

As an example of this contrast, the following directions for

But it must be observed further, and, were it not familiarised to us by the universality of the practice, we should observe it with astonishment, that *nothing at all* is prescribed calculated to act, or intended to act directly *upon the affected part.* No remedy whatever is given which has any natural action on the windpipe, the only organ where any ailment exists. Such is the inherent awkwardness, and such is the sledge-hammer violence of the usual method of treating diseases, that it is, for the most part, only the healthy parts of the body that are directly affected by the remedies prescribed. On one occasion, my relative, the first William Hey, of Leeds, saw a lady who was suffering from an ulcer near the ankle, and he prescribed an issue below the knee; the lady involuntarily exclaimed, "then I shall have two sores instead of one!" Such was our best treatment, before the introduction of homœopathy.

Let us return to our suffering little baby, with the new method in our minds, and all these conflicting indications are suddenly reduced to one:—to find a drug which has the natural power of acting upon the windpipe, and which in health will produce a similar morbid condition of it. We give this drug alone, in very small doses, with such repetitions as may be required, and the complaint yields, the symptoms are removed, and, by the blessing of God, the child is restored to perfect health; without either its stomach or bowels, its skin or liver, or any healthy organ having been disturbed or interfered with;—that which was

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the treatment of this *child-crowing*, or laryngismus stridulus, taken from the latest edition (1871) of Sir Thomas Watson's "Lectures," may be given:—

"In the paroxysm the warm bath might be useful, if it could be got ready in time. The application to the throat of the hot sponge is a more accessible, and often a very effectual expedient. Sprinkling the face and chest freely with *cold* water will sometimes unlock the spasm, and set the little sufferer free." (Lecture XL). Here we have the use of *water*, warm, hot, or cold; and no medicine at all! (1873.)

ailing has been cured, and that which was well has been let alone. This has happened in my own hands, and we are bound to testify what we have seen.

It would be easy to give examples of more complicated cases, in which the indications under the common method are still more numerous, or still more contradictory. I cannot do more than allude to one of the latter description, but it is one in which the contradiction is so great as to give rise to the greatest perplexity, and the most painful anxiety. The case is an inflammatory disease of any kind, occurring in a debilitated constitution; a combination unhappily often met with. In this case, an antiphlogistic or reducing treatment is supposed to be called for by the inflammation; and tonic or strengthening measures are imperiously demanded by the patient's distressing weakness. In the treatment of such a case bleeding and brandy, or remedies as much opposed to each other as these are, not unfrequently find themselves in very close approximation.

On the contrary, by the new method, although a careful examination of the case, and a diligent study of the Materia Medica, are required, there is but *one indication* to be attended to, and but *one remedy* to be given, and thus perplexity and inconsistency are banished.

In complicated chronic cases, when it is possible to discover the original or leading feature of the ailment, if a remedy be selected capable of meeting this primary condition, it not unfrequently happens that not only will this condition be greatly improved, but other accompanying symptoms, though appearing to have little connection with it, will also be removed. And thus a single remedy will sometimes suit a patient for several years, and relieve very various ailments during that time. This I have experienced in my own person, and witnessed in others.

The benefit to the patient, so often in vain longed for from the complicated prescriptions in common use, may be expected with greatly increased confidence from the employment of a single remedy. Dr. Paris speaks of medical combinations, and declares that their object is to operate, "*citò, tutò, et jucundè*,"—quickly, safely, and pleasantly; thus quoting the language of Asclepiades as applicable to them. With how much greater reason such language can be applied to homœopathic treatment, the foregoing observations may suffice to show.

Citò. A medicine is much more likely to produce its peculiar effects *quickly*, when given alone, than when its action is neutralised or interfered with by being mixed with other drugs.

Tutò. The chances that a patient will be injured by a small dose of a single remedy, must be much fewer than by large doses of mixed medicines. He must be treated much more *safely*.

Jucundè. And as to the comparative *pleasantness*, I am willing to abide by the patient's decision.

By the use of a single medicine at a time, every injury is avoided, and every benefit is obtained, to the utmost of medical skill.

Such are some of the advantages which the law of homœopathy presents for our acceptance, in the simplicity of its mode of prescribing remedies for disease.

There is another consideration, of a profound and interesting character, to which I wish now to address myself, and to the investigation of which I earnestly hope my professional brethren will give their serious attention.

The subject presents itself in the terms by which the various articles of the Materia Medica are arranged and designated. It is expressed in one word, the *intention* of the treatment.

In the system of Galen, which governed medicine for fifteen hundred years, all drugs were estimated as hot or cold, dry or moist, in regulated degrees; and were prescribed accordingly for diseases which were supposed to correspond to them by contraries; as a hot remedy for a cold disease, and a dry one for a moist. At present they are called emetics, cathartics, diaphoretics, narcotics, and so forth. These terms indicate the very essence of the usual practice; the light in which all remedies are viewed; the *intention* with which they are given.

Thus it appears that drugs are not considered as they are in themselves, but as they belong to one or other of these modes of action. When a patient is seen, the mental inquiry is, what are the *indications* which his ailments suggest? Ought he to be vomited, or purged, or refrigerated, or stimulated? The answer to these questions is supposed to direct to the *classes* of medicines which are to be administrated, and they are given with corresponding *intentions*. In prescribing ipecacuanha, or tartar emetic, the physician intends to produce vomiting; in giving blue pill and colocynth, followed by senna and Epsom salts, he intends to purge; in applying a plaster of cantharides to the surface of the body, he intends to produce inflammation and blistering of the previously healthy skin.

Far otherwise are the thoughts suggested by the law of homœopathy. The patient is suffering in such a manner; the question suggested, when the examination of the case is concluded, is this, what drug produces in health a similar condition of disease? That drug must necessarily act upon the organs which are diseased; it will act upon them while under the excitement of disease in a very small dose,—too small to act upon any other organs which it has a natural relation to, but which are still in a healthy condition; by the use of this drug the disease will be best arrested, the health will be best restored, and all that is well will be let alone.

Thus the immediate object proposed by the homœopathic practitioner is, not to produce vomiting, or purging, or perspiration, or any other evacuation, but simply to remove the disease from which the patient is suffering. Of course the ultimate object of the allopathic practitioner is to restore his patient to health, but it will be seen that that object is aimed at *indirectly*, through the medium of other prior intentions; these intentions being, not to produce health, but conditions which are themselves more or less departures from health. The sick man is to be cured *by being made more sick;* however numerous his symptoms may be when seen by his physician, he must have some additional ailments produced artificially, before he can expect to be relieved. This important difference between the two *intentions* must, I think, be intelligible and plain.

It is true that certain effects are sometimes produced by the small dose of the homœopathist which resemble, in some degree, the effects of the common medicines;—for instance, when *aconite* is given in a case of inflammatory fever with a dry skin; at the moment when relief is experienced by the removal of the fever, there may be perspiration; but the resemblance is apparent only; the medicine was not given as a diaphoretic, with the *intention* to produce perspiration, neither did its doing so relieve the fever; these two events happened in the opposite order; the fever was first checked, and then, through returning health, the previously dry skin became moist. In the same manner, in a case of constipation from torpor of the bowels, *opium* is given, and the natural action is by-and-by restored;—not because opium is a purgative, for, as every one knows, it is classed at the head of medicines of an opposite character, but because it removed the torpor, by which means nature was in a condition to proceed as in a healthy state.

The contrast of the two methods is exhibited, though with some confusion, by Dr. Paris himself in the following paragraph:—

"Dr. Blackall presents us with a case, on the authority of Mr. Johnson of Exeter, in which well-fermented bread occasioned, *in the space of a few hours*, an effect so powerfully diuretic, as to have cured the sailors on board the *Asia* East Indiaman, who had been attacked with dropsy in consequence of the use of damaged rice; so that diuretics in some cases *cure by evacuating*, while in others, as in the instance above cited, they *evacuate by curing*."

Here then is another characteristic difference between the two systems of medical treatment;—the usual method attempts to cure by evacuating; the new mode will evacuate, *if there be anything requiring evacuation*, by first curing.

The reason now appears why homœopathists do not call the remedies they use by the names commonly attached to them, as cathartics, sudorifics, &c. The impropriety would be as great as it is to call good wholesome "well-fermented" bread a *diuretic*, as is done by Dr. Paris in the paragraph above quoted. Such an appellation is a libel on the staff of life. What the bread did, was just what the unsound rice could not do,—it nourished the body; acting, not as a medicine, but as wholesome food,—the thing needed. The evacuation of the dropsical effusion was the consequence of the restored health and strength of the different organs of the body. What the homœopathic remedy, given alone, does is to restore the diseased organ, if it be capable of restoration to health; any evacuations which may follow being the consequence of that restoration. This is a refined and scientific proceeding, as far removed as possible from the rude violence of large doses of poisonous drugs, given in combination, and "fighting together in the dark."

The considerations advanced in this Essay afford conclusive *primâ facie* evidence of the great superiority of the method of giving a single medicine at a time. The only question which can now be raised is a question of *fact*. Does the plan succeed at the bedside of the patient? To answer this inquiry I would gladly produce cases from allopathic sources, and this for a double reason; no disposition could be felt to question the authority; and the infinitesimal dose, which does not form part of the subject, would not complicate the evidence. But a sufficient number of such cases cannot be met with, so nearly universal is the practice of combination. A few reports, scattered through the journals, may be found of *ipecacuanha* having been given successfully in hæmorrhage; of *copper* in some spasmodic affections, as chorea; of *nux vomica* in spinal disease; of *creasote* in derangements of the stomach; of *arsenic* in some diseases of the skin; but these—

> "Apparent rari nantes in gurgite vasto,"—VIRGIL.

and they are not sufficient to prove the affirmative to the answer. So far as they go, they support the statement that one remedy at a time is sufficient to cure; they also constitute evidence in favour of the law of homœopathy,—as may be seen from the examples here given;—they may at least be considered sufficient to lead intelligent observers in the right direction.

I am constrained therefore to refer to the numerous works already published by homœopathists, and which contain overwhelming evidence to prove the sufficiency of a single remedy.

I am also bound to give my own personal testimony to the same effect. For example, I have seen, of acute cases, inflammation of the brain removed by *belladonna;* inflammatory croup cured by *aconite;* mumps by *mercury;* pneumonia by *phosphorus;* and of chronic cases, dyspepsia removed by *pulsatilla;* tabes mesenterica by *sulphur;* disease of the bladder by *petroleum;* constipation by *opium;* and so on. In other cases, a single remedy is sufficient for a portion of the treatment, or for the symptoms in a certain stage, or during a certain period of the disease; to be followed by another medicine, also given singly, when that stage has passed away, or when the symptoms are changed.

The experiment is not insuperably difficult; let others try it, as I have done. To my own mind, to say that one medicine at a time is practically sufficient, and answers better than any combination, is to state *a* *plain fact;* and I cannot conclude otherwise than by expressing an earnest hope that the method will, ere long, be universally adopted. We shall not, till then, be able to carry out the good advice given us of old by St. Basil, "*The physician should attack the disease and not the patient.*"

ESSAY IX.

THE SMALL DOSE.

"Effects misimputed, cases wrong told, circumstances overlooked, perhaps too, ***prejudices and partialities against truth***, may for a time prevail, and keep her at the bottom of her well, from whence nevertheless she emergeth sooner or later, and strikes the eyes of all *who do not keep them shut.*"

BISHOP BERKELEY.

ESSAY IX.[1]

THE SMALL DOSE.

"Knowledge is more beautiful than any apparel of words which can be put upon it." LORD BACON.

"GOD is my witness, and all good men know that I have now laboured fifty years with all care and pains in the illustration and amplification of my art; and that I have so certainly touched the mark whereat I aimed, that antiquity may seem to have nothing wherein it may exceed us beside the glory of invention, nor posterity anything left but a certain small hope to add some things, as it is easy to add to former inventions."

So thought, about three centuries ago, the celebrated surgeon Ambrose Parè; and so think many in the present day. But it is in vain. Knowledge, notwithstanding, has increased, and is still increasing. At the very moment when Parè was expressing his self-complacent satisfaction, the veil which had covered the eyes of Europe for so many ages was being torn away; and at the present time the limits of our intellectual vision are being extended more rapidly than at any previous period of the history of the world.

If any one would see and participate in this progress of human knowledge, he must make an effort to free himself from the prejudices of education, from the power of pre-conceived opinion, and from the influence of habits of thought, and resolve to admit every conclusion which appears to be adequately supported by careful observation.

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[1] First published in 1852.

The subject now undertaken is one of acknowledged difficulty. I think no one can have *felt* this difficulty more than myself. An attempt shall be made to reduce it within its proper dimensions. For this purpose it is proposed, after a few remarks on the general character and extent of our knowledge of natural things, to state the case and its difficulty, and then to answer the three following questions :—

I. Are we acquainted with any facts which render it probable that infinitesimal quantities of ponderable matter *may* act upon the living animal body? In other words, what does *analogy* teach us ?

II. Are there any facts which show the action of infinitesimal quantities of ponderable matter on the *healthy* body ?

III. What are the actual proofs in support of the assertion that such minute quantities of ponderable matter act remedially on the *diseased* body ?

Our knowledge of nature is obtained by observing facts or events, and their succession, by our bodily senses. Our ideas of external objects are produced by the impression which those objects are capable of making upon our minds, through the instrumentality of our senses. We can observe and experiment upon these facts or events, and the manner in which they succeed each other, to the extent which our senses permit us, but no further. The limit of the powers of our corporeal senses is the limit of our knowledge. This limitation is absolute. For example :—

Sound is produced by vibrations of the air striking upon the organs of hearing. The various musical notes, from the lowest to the highest, are produced by the varying rapidity of these vibrations. The gravest sound is produced by about thirty vibrations in a second, the most acute by about a thousand.[1] Each series of vibrations of the particles of the air is a fact or natural event, and when it strikes our ear we become acquainted with its existence by the sound perceived, provided the number of vibrations is not below thirty nor above a thousand in a second. These are the limits of our powers of observation of vibrations of the air. That there are vibrations slower than thirty and more rapid than a thousand in a second, cannot be doubted; and that there are living beings capable of perceiving them, is probable—the hare for example—but to us they are as though they did not exist.

The same is true of the eye and the observation of colours. The vibrations of the ether, (according to the undulatory theory of light), produce impressions upon the organ of seeing, and the varying rapidity of these vibrations enables us to perceive the different colours. The limits are still narrower than those of sound. The whole scale of colour, from violet to crimson, lies between vibrations which number 458 millions of millions (or billions) and 727 millions of millions in a second. That there are vibrations of the luminiferous ether, varying in frequency beyond these two extremes, must be almost certain, and that there are eyes which can feel their impression is probable,—the owl and the bat, for example,—but to us they are as though they were not. We shall never, in this life, hear new sounds, nor see new colours.

The senses of smell and touch are similarly limited. The hound can smell and the insect can touch what we cannot.

In two ways art has rendered assistance to our sense of sight. We stand upon the deck of a ship, while crossing the Atlantic, our eye takes in a considerable prospect of the surrounding waters, the telescope extends this prospect ; still, in either case, it has positive limits, which are dependent upon the powers of the eye. This prospect, vast as it seems to us at the time, bears a very small proportion to the real extent of the ocean.

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[1] Savant has reduced these figures for a very deep sound to fourteen or sixteen vibrations in a second; and has pushed the limit of acute sounds up to 48,000 vibrations in a second. See Ganot's 'Physics,' by Atkinson. 5th edition, 1872, page 174. (1873).

Again, bodies soon become divided till their particles are too small for the naked eye to perceive them. That they still exist, and are susceptible of much further subdivision, is rendered certain by the aid which the microscope affords us ; we can now follow them with the eye till they are millions of times less than before ; but our vision again ceases—we lose the particle—yet we cannot conclude that it has ceased to exist, or ceased to be divisible. There are animals as small as this particle, and the atoms of which they are made up must be considerably less than themselves. The particle we have lost may be capable of further division indefinitely ; so that the divisions we can see may bear a much smaller proportion to those we cannot see, than the prospect which the deck of a ship affords us does to the rest of the unseen ocean.

Beyond these limits our knowledge of external things cannot extend ; they are impassable boundaries. We see how near they approach each other, and consequently how finite our knowledge is.

Besides these there are limits of another kind, which require to be noticed. They will be best explained, as the former have been, by an example or two.

On the discovery of oxygen gas it was concluded by Lavoisier to be an element necessary to the processes of combustion and acidification ; to be the sole supporter of combustion and the sole generator of acids : hypotheses were constructed and the name given accordingly. This was the limit of our knowledge on this subject at the time. A few years later it was discovered that a leaf of copper takes fire spontaneously and burns in chlorine gas, and that hydrogen and chlorine combine and form a powerful acid. Here then was a real extension of our knowledge.

If we collect in a small vessel two volumes of hydrogen and one of oxygen, it is well known that the contact of flame, or an electric spark, will cause an explosion, the gases disappear and a drop of water is produced. For some time it was believed that the agency of heat or of electricity was requisite to produce these mechanical and chemical phenomena. But it was afterwards found that if we insert a piece of cold spongy platinum into the mixture, that is sufficient to occasion the gases to explode, and the drop of water to be produced. Thus the previous limits of our knowledge were extended.

These examples show that our knowledge of nature has not only a fixed limit, dependent on the powers of our bodily senses, but that it is also limited by a sliding scale, dependent upon the industry with which we use these powers. This is the boundary which has already so often been extended ; these are the barriers which we may still hope to throw down.

The small dose of the homœopathist, viewed in the light of this double limit, may be thus considered :—chemical tests follow the grain of medicinal substance to the third trituration, that is, till it has been divided into a million of parts, and a good eye, assisted by a powerful microscope, can follow it to the fourth or fifth trituration, beyond this it is absolutely lost to the perception of our sight. The sense of smell can detect musk to the fifth or sixth dilution. Everything that we know forbids us to conclude that the division of matter stops here, but our senses cannot follow it further. On the other hand, our power of observing the effects produced by these doses has no limit but that of the sliding scale. Admitting for the moment, what I think will afterwards be proved, that effects are produced, it is evidently as easy for us to observe them after a dose of the thirtieth, as after one of the third or of the first trituration. The same cautions are necessary, but nothing more.

Another feature in the character of our knowledge of natural things is our ignorance of *modes of action.*

This also is a result of the very limited powers of our bodily senses. The succession of events can be traced only for a few links, and we cannot discover how even these are connected together.

A lucifer match is rubbed on a rough surface and it inflames. *How* friction produces such a result we know not. If it be said that friction evolves heat, and that heat inflames the match, the question returns, *how* does friction evolve heat? and *how* does heat inflame the match? No one can tell.

No fact is better ascertained than that the moon is kept in its orbit round the earth, and the earth in its orbit round the sun, by the same force as that which causes a stone or an apple to fall to the ground. These bodies are separated by immense distances, how can they act upon each other? How is it possible for an inert lump of matter to influence another inert lump a hundred millions of miles off? It is by the force of gravitation; but what is gravity? and how does it act? We know not.

If we throw a piece of the metal potassium upon ice, it instantly inflames, burns itself into the ice, and disappears. Part of the ice has been melted, the water decomposed, its hydrogen burnt, and its oxygen has united with the metal and formed a portion of caustic potash, which is all that remains in the cavity of the ice. These extraordinary phenomena are the effect of chemical affinity, but what is that? and how does it act? No one can inform us.

We can surround a seed with suitable proportions of air, warmth, and moisture, and can observe the gradual development of the germ, of the entire plant, and of the ripening seed. *How* have all these wonderful changes been effected? They are attributed to the vital force, but we know not in the least what that is, nor how it acts. We can examine the various tissues with our microscopes, and analyse them in our laboratories, and thus become acquainted with many new and beautiful facts, which have presented themselves in the course of the growth of our experimental plant. When we have reduced the mechanism to the simplest form, we find that it consists of minute vesicles, formed by an elastic transparent membrane composed of a substance somewhat resembling starch, and called *cellulose.* When we have obtained the ultimate chemical analysis, we find certain proportions of carbon, oxygen, hydrogen, and a few metals or metallic oxides. We find nothing which reveals to us what *vitality* is, nor *how* the successive changes we have witnessed have been brought about.

We take food and are nourished; we take medicines and are acted upon by them; we take poisons and die; but *how* these things act so as to produce such effects we know not.

If it be said that our food is converted into chyme in the stomach, and into chyle in the intestines, that this is absorbed by the lacteals and conveyed by the thoracic duct into the blood, and that thus we are nourished, I reply, all this is granted, but what then? The question remains as it was,—*how* is all this done? No one can tell.

Again, if it be said that medicines act on the nervous system, and stimulate the stomach, that they are sedatives and stimulants, emetics and purgatives, sudorifics, and expectorants; what of all this? What are these stimulating powers, how do they produce their effects, and how are these effects beneficial? No answer is given.

The succession of events,—the steps by which an ultimate result is produced,—these, *within the limits described,* may be observed and experimented upon, but *how* each step is accomplished is beyond our ken. Of the recesses of nature, of the secret chambers in which her operations are carried on, how forces are "correlative," how they can be changed into each other, how they act upon matter, how matter acts upon them, we are profoundly ignorant. Nevertheless we believe what we see without waiting until we can explain it.

Such is the actual condition, the general character and extent of our knowledge of nature, and this consequence follows :—we are not entitled to reject anything which professes to be a *fact*, if supported by a sufficient amount of evidence, merely because it is inconsistent with our expectations, does not coincide with our previous opinions, or is not within the limits of our former experience. We are not justified in concluding against a statement of fact by *à priori* reasoning or theoretical considerations. Analogies may render an assertion probable or the contrary, but no reasoning is conclusive against a matter of fact. The truth or falsehood of the announcement of a fact cannot be settled by reasoning or argumentation, it must be decided by evidence.

The case to be stated is this :—when a remedy has been chosen in accordance with the law of homœopathy (explained in Essay IV), an inconceivably small quantity is often a sufficient dose.

The difficulty lies in the incredibility of this statement.

Be it well observed that the matter in hand is not to account for the efficacy of the small doses, but to prove that they are efficacious. The difficulty is not how to explain their action, but how to believe it.

A story is told of the Royal Society, that on a certain occasion it was proposed to that learned body to explain how it was that when a live fish was put into a basin full of water, none overflowed. After sundry grave hypotheses had been propounded and objections urged, it was at length proposed to try the experiment. So with this medical difficulty, leaving explanations, let us first try the experiment as a matter of fact. The whole case is embraced by the three questions already proposed.

I.—Are we acquainted with any facts which render it probable that infinitesimal quantities of ponderable matter *may* act upon the living animal body ? In other words, what does *analogy* teach us ?

Look at that bright star! Its brilliant beams of light strike upon the eye and convince the merest child of its existence; and yet it is so remote that the astronomer with his telescope cannot calculate its distance. What a vivid flash that was, and how loud the thunder! See yonder oak riven to its centre,—what an irresistible force; and yet the chemist, with his most delicate balance, cannot perceive its weight. Here is a mass of iron, weighing a thousand pounds, moving rapidly upwards, notwithstanding the attraction of the earth to this amount, without any visible link, towards another small bent piece of iron a foot long, encircled with the galvanic current;—and now falling heavily to the ground the instant that current is arrested. What a mysterious, albeit very visible effect from an invisible, impalpable, imponderable power, generated by such simple means. How warm the fire feels while we stand at the distance of some feet from the hearth! We can imagine how heat will go up the chimney, because heated air is lighter than cold air, and will therefore ascend; but how does the warmth get across horizontally to our legs? Oh, it is radiant heat or caloric which travels in right lines in every direction. Very well, but what is radiant heat or caloric? What is light? What is electricity? What is magnetism? Several answers are given by philosophers to these questions. Taking light as the example, there are two modes of explaining it:—according to Newton, light consists of *material particles*, emitted by luminous bodies, and moving through space with a velocity of 192,000 miles in a second, and these particles striking the eye produce the sensation of light. According to the other explanation of the phenomena, light consists in an undulating or vibratory movement, which, when it reaches the eye, excites the sensation of light, in the same manner as the sensation of sound is excited in the ear by the vibrations of the air. It is obvious that this theory also presumes the existence of a *material medium* through and by which the vibrations can be transmitted; in fact it supposes that an exceedingly thin and elastic medium, called ether, fills all space. For our present purpose it is unimportant which theory is regarded as the true one, inasmuch as both assume that *matter in some form* is concerned in producing the various impressions of light and colour upon the living animal body. The effects are produced by imponderable but not by immaterial agents. To convey some faint notion of excessive minuteness, it may be mentioned that the length of an undulation of the extreme violet ray of light is 0·0000167 of an inch; the number of undulations in an inch is 59,750; and the number of undulations in a second is 727,000,000,000,000, (727 billions); while the corresponding numbers for the indigo ray are, length, 0·0000185 of an inch; 54,070 undulations in an inch; and 658,000,000,000,000, (658 billions) in a second. The other rays differ in similar proportions.

"That man," says Herschel, "should be able to measure with certainty such minute portions of space and time is not a little wonderful; for it may be observed, whatever theory of light we adopt, these periods and these spaces have a *real existence*, being in fact deduced by Newton from direct measurements, and involving nothing hypothetical, but the names which have been given them."

Whether, therefore, light be viewed as material particles emitted continuously, and in all directions, by luminous bodies, or as the vibrations of an elastic material medium, it is, in either case, dependent upon *matter* for its existence or production; it is matter, but exceedingly rare, subtle, and so minutely divided as to be to us imponderable.

It is probable that heat, electricity, and magnetism are motions, varying in kind, of the same ether.

That space is occupied by minute particles of matter admits of being proved in another manner quite independent of these observations on light. It has been ascertained by astronomers that one of the comets, called *Encke's*, which is a body not denser than a small cloud of steam, for the stars are seen through it without any diminution of their brilliancy, and which revolves round the sun in 1,208 days, has its period slightly diminished during each revolution. It is evident that its motion is impeded by a *resisting medium*, by which its centrifugal force is diminished, and consequently the relative power of gravity is increased; this brings the comet nearer to the sun, its orbit becomes contracted, and the time occupied by a revolution shortened. Thus, by another series of observations, we arrive at the same conclusion that there exists a rare, subtle, and *imponderable form* of minutely divided matter.

Infinitesimal quantities of this imponderable matter are capable of acting energetically, and *they do so act* habitually, producing such impressions as those of light, &c., upon the living animal body.

Reasoning, then, from analogy, we may conclude it to be *probable* that other forms of matter, even though reduced by the successive triturations, into *similarly small diminsions*, may also act, and act powerfully, upon the living body.

II.—Are there any facts which show the action of infinitesimal quantities of ponderable matter upon the *healthy* body?

The beautiful adaptation of the different departments of nature to each other is justly adduced as a demonstration that the whole has been created and arranged under the guidance of infinite wisdom and power. In nothing is this adaptation more conspicuous than in the appropriate fitness of the corporeal senses of man to the surrounding world.

So far as we are cognisant of the material creation, it is disposed under the five following forms:—solid bodies, liquids, gases or airs, imponderable ether, and minutely divided particles of ponderable bodies. For the appreciation of these various forms of matter we have five senses. The sense of touch, mainly conversant with solid bodies; that of taste, which is impressed by liquids only; the delicate organ of hearing, which can perceive the vibratory movements of gases or airs; the still more delicate organ of the eye, capable of receiving impressions from the undulations of the imponderable ether; and, lastly, the sense of smell, adapted to the condition of the particles of bodies, when they have become so divided as to be infinitesimal, that is, indefinitely small and imponderable.

It is the form of matter last named which we have now specially to consider. The particles separated from larger masses, which become by degrees so small as to elude in succession the perception of all our senses, and perhaps at length are reduced to a state similar to the ether.

A cubic inch of platinum, the heaviest body we are acquainted with, weighs upwards of 5000 grains. A cubic inch of hydrogen, the lightest body which affects our balances, weighs 2 grains. These balances, by ingenious contrivances, are made very sensitive; I have one which readily weighs 0·005, or five thousandths of a grain. Others have been constructed still more delicate; but the particles we are now examining are far too light for any balance to appreciate.

Mechanical division can be carried to an almost incredible degree. Gold, in gilding, máy be divided into particles at least one thousand four hundred millionths of a square inch in size, and yet possess the colour and all other characters of the largest mass. Linen yarn has been spun so that a distinctly visible portion could not have weighed the 127,000,000 (127 millionth) of a grain; and yet this, so far from being an ultimate particle of matter, must have contained more than one vegetable fibre, that fibre itself being of complex organization, and built up of an indefinitely great number of more simple forms of matter.

Chemical division is equally successful and surprising. I have been able to show the presence of iron in the third dilution of the sulphate; that is, to detect the 1,000,000 (millionth) of a grain of the sulphate of iron; this particle was not a simple atom, but consisted, of course, of still smaller quantities of sulphur, oxygen, and iron. Sir Robert Kane says that a quantity of silver, equal to the 1,000,000,000,000 (billionth) of a cubic line, can be readily detected.[1]

Even organic substances, which are very compound bodies, and therefore experimented upon with more difficulty than minerals, can be detected in exceedingly small quantities. Mr. Herapath has given in evidence the following statement:—"I am perfectly sure that I could detect the 50,000th part of a grain of strychnine, if it were unmixed with organic matter. If I put ten grains in a gallon, or 70,000 grains of water, I could discover its presence in the tenth part of a grain of that water."[2] Now an atom, the most minute conceivable particle of strychnine, is composed of about 30 atoms of carbon, 16 atoms of hydrogen, 1 atom of nitrogen, and 3 atoms of oxygen. Each of these particles must be very much less than the particle of strychnine, which contains 50 of them.

It can scarcely be needful to remark that any particle of matter, however minute, which can produce a visible effect upon an inert chemical re-agent, must have power to act upon the sensitive nerves of living animals. It is therefore not surprising to hear Mr. Herapath, after making the statement which I have quoted, go on to say, "I made four experiments with a large dog to which I had given the *eighth part* of a grain of strychnine. I have discovered it by change of colour in the 32nd part of the liver of a dog."[3]

That particles become divided into less portions than is shown even in these examples is evident from the daily observation of the sense of smell. The violet fills a royal apartment with its sweet odour, which is thus readily perceived, but which eludes every other mode of observation. How inconceivably small must be the particles of all odours! And yet they are material.[1]

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[1] 'Elements of Chemistry,' by Sir R. Kane, 2nd edition, p. 7.

[2] The 'Times,' May 23, 1856.

[3] Ibid.

A grain of musk may be exposed for a long period, and be unceasingly emitting particles, easily appreciated by the sense of smell, yet has it not lost in weight what the most sensitive balance can detect.

These are instances of infinitesimal quantities of matter acting upon the *healthy* body.

Contagious malaria constitute a large class of agents whose power of injuriously acting upon our healthy body is so greatly dreaded, and no one has yet doubted that they are material. Who voluntarily crosses the Pontine marshes at certain seasons of the year, or exposes himself to the plague of Constantinople, or the yellow fever of the West Indies? And yet the microscope cannot show these terrible particles, nor can chemical analysis detect them. Ozone perhaps decomposes them.

To come nearer home, a clergyman visits a patient in scarlet fever, but does not touch him, he afterwards calls upon a friend, and shakes the hand of one of the children as he passes her on the staircase. The next day this child sickens with the scarlet fever, and her brothers and sisters take it from her; no other connection can be traced. This is no uncommon occurrence, and no one doubts the communication of infection in such a manner, neither is it doubted that the infection itself is something material. What is the *weight* of the particle of matter thus conveyed? Is it heavier than the millionth of a grain of belladonna which, it is asserted by homœopathists, is sufficient, when given at short intervals, to arrest the progress of such a case?

These, then, are also instances of infinitesimally small quantities of matter acting upon the living body in *health*.

There are numerous liquids which have the power of affecting the healthy body, and some of them of taking away life, and yet in each instance the quantity of the active ingredient is so exceedingly small that hitherto no means have been effectual in detecting it.

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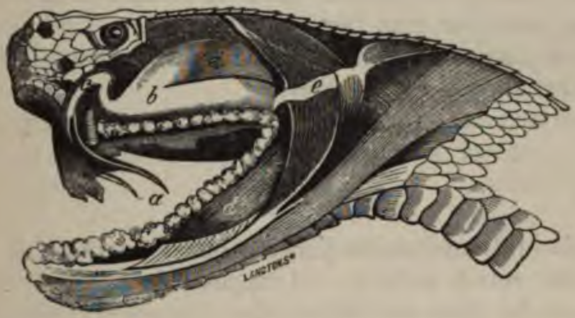
[1] I express this as my belief, notwithstanding the suggestion lately made that odours may be undulations.

The vaccine matter has been so often mentioned that it need not be alluded to further.



Several animals are furnished with poisonous liquids, which, when injected into a wound, occasion the disease or death of the wounded animal. Serpents, bees, scorpions, and spiders are well-known examples. In the venomous serpents there is found an apparatus of poison-fangs, constituting perhaps the most terrible weapons of attack met with in the animal creation. The poison-teeth (*a*) are two in number, placed in the upper jaw, when not in use they are laid flat upon the roof of the mouth ; but when the animal is irritated, they are plucked up from their concealment, and stand out like two long lancets. Each fang is traversed by a canal, through which the poison flows. The gland (*b*) which secretes the poison, is composed of cells communicating with a duct (*c*) by which the venom is conveyed to the tooth. The poison gland is covered by a muscle (*d*) which is attached to a thin fibrous line (*e*). This is part of the muscle which closes the jaw, so that the same power which strikes the teeth into the viper's prey, compresses at the same moment the bag of poison, and forces it through the fangs into the wound.[1]

The quantity of poison contained in the gland scarcely exceeds a drop, but the smallest portion of this liquid taken up upon the point of a needle, and inserted by a slight puncture into the skin of an animal, is sufficient to produce all its poisonous effects. From some serpents it produces almost immediate death. Fontana first subjected it to chemical analysis, and sacrificed many hundred vipers in his experiments. Others have succeeded him in these labours, but nothing peculiar has been discovered. The poison is a yellow liquid, and has not been distinguished chemically from simple gum water.[2]

Here are examples of infinitesimal quantities of ponderable matter acting with frightful energy upon the *healthy* body.

Medicinal substances furnish other proofs. A single example must suffice. Inappreciable quantities of ipecacuanha give an affirmative answer to our present question, so decisive and convincing that no apology need be made for extracting the following cases from that well-known and highly respectable allopathic periodical, the "London Medical and Physical Journal:"—

"An apprentice of mine, naturally healthful, and of an active disposition, is invariably affected with a most distressing and protracted sneezing on the most careful dispensing of the smallest quantity of *ipecacuanha.* A more continued application of it, such for instance as happens in the preparation of the compound powder, is followed with dyspnœa (difficulty of breathing), cough, and spitting of blood. Having occasion some time ago to compound the medicine for several days together, he became seriously affected by it, in the way just stated, and he has not enjoyed full health since. It has evidently produced a disposition to asthma, and an aptitude for pulmonary ailment, which he had not used to possess."[1]

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[1] 'The Animal Kingdom,' by T. Rymer Jones, p. 588.

[2] Thompson's 'Animal Chemistry,' p. 538.

"In the year 1787 or 1788, in pounding the root to make the *ipecacuanha wine*, I was suddenly affected with violent and reiterated sneezings, with a very profuse defluction from the eyes and nose; these symptoms continued without intermission for many hours, accompanied by great heat and anguish throughout the cavity of the thorax, and the most oppressive dyspnœa. Exhausted by the violence of the attack, I was conveyed to bed, where, supported, for I was unable to lie down, I remained more or less afflicted till the next morning. I arose extremely weakened, and with all the usual appearances of a severe catarrh. From this date I have been perpetually tormented by violent catarrhs. The slightest motion of the simple or compound powder of ipecacuanha superinduces precisely similar, but more gentle, effects. When weighing or mixing these powders afterwards, I carefully guarded my mouth and nose by a cloth; but an incautious removal of it for inspiration, till perhaps half an hour had elapsed, after the medicine was finished, occasioned the same inconveniences. At length I was compelled to quit the shop when ipecacuanha was in hand; indeed, I have frequently entered my own, or the shop of a stranger, long after it had been used, and by the instant recurrence of these very distressing sensations, have been able too accurately to ascertain the recent exposure of this drug.

"I never designedly had recourse to ipecacuanha for more than twenty years. Two accidents lately, within a few weeks of each other, afforded me the opportunity of determining its present effects when inwardly administered. A friend hearing me cough in the street, presented me with a few lozenges; I took two at once; they were scarcely dissolved, ere I felt a pungent roughness in every part of the mouth, exciting a great secretion of saliva; this, it is worthy of noting, was the reverse in the preceding attacks, when the excretory ducts uniformly denied their offices, and occasioned a disagreeable dryness of the mucous membrane. As this acrid sensation extended to the lips, they became prodigiously swollen and inflamed. On the fauces I experienced the like effects, with a most teasing itching irritation; it descended the trachea, producing pain and dyspnœa; it likewise proceeded down the œsophagus, creating a slight heat in the stomach, and passed with moderate gripings throughout the intestinal canal.

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[1] Mr. Spencer, 'Medical and Physical Journal,' June, 1809, vol. XXI., p. 485.

"Soon after, a powder was brought to my house, with an order to prepare more of the same kind. I conveyed a few particles to my tongue to discover its composition; I quickly experienced those feelings in the mouth and lips which arose from the lozenges before, but in a milder degree, and they extended no further. Upon referring to the prescription, I found that there was one grain of ipecacuanha and ten of calcined magnesia. The incident gave birth to the idea that the former strange affection had originated from the same cause as the latter, and upon enquiry my suspicion was confirmed; they were *Ipecacuanha* lozenges which I had swallowed. . . . Snuff and other stimulating powders excite no more irritation on me than on others."[1]

"One of the editors recollects a somewhat similar effect produced on his father."

"To these three cases (the two preceding and one by Mr. Royston, alluded to in January 9, 1809) I shall now add two in females, who seem to have been affected in so similar a manner by the subtle effluvia of ipecacuanha, that to enumerate their symptoms would only be to repeat what has already been given respecting those effects.

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[1] 'Medical and Physical Journal,' March, 1810, vol. XXIII, p. 199.

"The first of these cases is that of a lady, now about fifty, the wife of a surgeon, and mother of a numerous family. The general state of health has always been good, her disposition lively and active, and by no means possessing anything of that valetudinarian irritability which marks striking peculiarity of constitution. She has been much in the habit, when the hurry of business required it, of assisting her husband in dispensing medicines. This gave rise to her first discovery of the effects of ipecacuanha on her habit. I had an opportunity of remarking this fact about eighteen months ago, being on a professional visit at her house, while her husband laboured under a severe fever. She was about to dispense one of my prescriptions in which some ipecacuanha had been ordered, and the moment she saw what the composition was, she ran from the shop to a distant part of the house, refusing to dispense it. This excited my curiosity to find the cause. On following her she explained it, and with some degree of anxiety looked round, lest some of the doors between her and the shop should have been left open while the prescription was about to be dispensed. As my stay was protracted some days, I had occasion to see these fears repeatedly excited. One forenoon in particular, while she was in her kitchen, a considerable distance from the shop, (two passage doors being between herself and it,) while she could neither see nor know beforehand, that ipecacuanha, which was the case, was weighing, she called out with vehemence to have the doors closed, on account of the sensations she was beginning to feel.

"The second instance came to my knowledge only the day before yesterday. The lady who is the subject of it called on me on her mother's account, who was indisposed, and being shown into my room, took up your last journal, which lay on my table, to amuse herself till my appearance. On my entering the room she told me she had been reading my book, and the part which she accidentally opened was Mr. B.'s communication; she added with a smile, this is far from so uncommon a case as this gentleman seems to think, for I myself am afflicted by it in the same manner; and then went into a considerable detail of the symptoms it excited in her. The catarrhal affection and sneezing she described as particularly distressing. The copious flow was so acrid as to excoriate, in a few hours, the parts over which it fell. Her upper lip and the alæ of the nostrils were swelled. But what created in her the most alarm, was its effects on her eyes. They became swollen and stiff, and sight was diminished. The eye-lids tumefied so that the eyes were sunk almost out of sight, which seemed to be the chief cause of the diminution of vision; the discharge from her eyes was nearly as great as that from her nose, and little less acrid. . . . No catarrhal effects were excited in her by snuff."[1]

"I know a lady who was always seized with asthma whenever ipecacuanha root was pounded in the shop; so sensible was she of this effect, that it was in vain to conceal from her what was going on in the mortar. This occurred about thirty years ago, in the lady of the physician (Dr. Buckham, of Wooler) to whom I was first a pupil, and I was twice the innocent cause of the complaint myself. I thought by her being in a remote part of the house, she could not be affected; but it was almost immediately felt, and the paroxysm lasted many hours. This lady was exquisitely nervous.

"I have been informed of different cases almost similar; they were all women; but, conceiving the observation a common one, I did not note them."[2]

Two similar cases, the wives of medical men, are given in vol. xxiv, page 233, by Dr. Scott. One attack, caused by being near her husband at the time he put some ipecacuanha into a bottle, was so violent as *nearly to prove fatal.* There was a remarkable stricture about the throat and chest, with very troublesome shortness of breathing, with a particular kind of wheezing noise. The symptoms were aggravated at night. At 3 o'clock in the morning she was gasping for breath at a window, pale as death, her pulse scarcely to be felt, and in the utmost immediate danger of suffocation. She became easier about 11 a.m. till about 11 p.m. *The same scene was continued eight days and nights successively.*

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[1] Dr. Hamilton, 'Medical and Physical Journal,' April, 1810, vol. XXIII, p. 318.

[2] Dr. Trotter, 'Medical and Physical Journal,' July, 1810, vol. XXIV, p, 60.

"Mr. Leighton, a very eminent surgeon at Newcastle, very nearly lost his wife in a similar manner."

Here, then, are such undeniable proofs—from odours, from contagious malaria, from animal poisons, and from medicinal substances,—that it may be strongly concluded that infinitesimal quantities of ponderable matter do act with great, and sometimes with destructive energy upon the *healthy* body.

III.—What are the actual proofs in support of the assertion that such minute quantities of ponderable matter act remedially on the *diseased* body?

The reply to the first question proposed renders it *probable* that infinitesimal quantities of ponderable matter *may* act upon the living animal body.

The answer to the second question embraces very numerous and undeniable facts which prove, in the most positive and unexceptionable manner, that such small quantities do produce direct, and sometimes frightfully powerful effects upon the living body in *health.*

That similarly minute quantities will act upon the *unhealthy* body is thus shown to be in the highest degree probable, if not certain; for it may be argued, *à fortiori*, if they can act upon the body in health, much more will they be able to act when the nervous system is in a state of exalted sensibility, produced by the morbid excitement of disease. Any portion of the surface of the body may be rubbed violently, when in a healthy condition, without painful sensation; but the same part, when inflamed, will shrink from the slightest touch.

It now therefore only remains that, by the evidence of facts, it is proved generally, that they do act, and particularly that their action is beneficial and remedial in disease.

If any one were to ask a physician who has been, for a few years, in the daily habit of prescribing these small doses, *do they act beneficially?* he would see an expression of countenance very like that which another person would exhibit if, while standing before a good fire, he were gravely asked if he felt any warmth. On the other hand, if a physician who has not been willing to try the doses, nor to see them tried by others, be asked, *can they act upon disease?* he assumes a tone like that of the King of Siam, when told by some European travellers that water sometimes becomes solid.

I do not address those who have tried the doses—they need no further evidence; nor those who will not try them, and who, with wonderful presumption, declare that such doses *cannot* act—they may be quietly passed by; but those whose minds are open to conviction, and who think the care of their health and the prolongation of their lives an affair of sufficient moment to require them to give attention to any information on the subject openly and candidly set before them.

The evidence which proves the beneficial action of the small dose is the same in kind as that which proves any other natural fact,—it is the evidence of observation and experiment,—that which our senses afford us. It is of the same nature as the evidence we have of the relation of cause and effect in any events which happen around us. It does not differ from that which we have of the operation of the *large* doses of medicine.

A patient has a violent headache; twelve leeches are applied to his temples; relief follows the application of the leeches. Had this happened but once, we ought to conclude that the fact of the removal of the pain following the application of the leeches was merely a coincidence, not an instance of cause and effect; but it has happened a hundred times, and we therefore conclude that the relief was the *effect* of the loss of blood by the leeches. Another patient has a similarly violent headache; the millionth or the billionth of a drop of the juice of the deadly nightshade is given; relief quickly follows. Had this happened but once, we ought to set it down as a coincidence—an accidental meeting of two events having no connection with each other—but it has happened a hundred times; shall it not then be concluded that the removal of the pain was the *effect* of the administration of the dose? Let any one who doubts such a conclusion, and who would attribute such frequent recurrences of the same succession of events to chance, take up a kaleidescope and turn it round till he gets the same figure a second time. We need not wish him a severer punishment.

The following statement of facts is now offered, for the truth of which I hold myself responsible.

I am aware of "the difficulty of tracing effects to their true causes;" and also that there are "various sources of error in conducting medical enquiries." It is due to truth to observe that every endeavour has been used to overcome the one and to avoid the other. I cannot hope to have succeeded in doing this in every case, but that the ultimate conclusion is a safe and true one I can entertain no doubt.

ACUTE DISEASE.

The effects of the small doses have been observed with the utmost care in the following cases:—

INFLAMMATION OF THE EYE.—Mr. Brodribb, in his 'Homœopathy Unveiled,' observes that "from the peculiar structure of the eye, we may often actually witness what is going on in diseases of that organ. . . . . With the same fidelity we can observe the effect of efficient treatment in the arrest and removal of the disease, and that too with such unerring certainty as to leave no doubt in our mind of the relation of the two as cause and effect."

I have formerly often treated diseases of the eye by what Mr. Brodribb would acknowledge would be "efficient treatment," and have often carefully watched its results. I have now also in a considerable number of cases, treated them with the small doses of homœopathy, and the beneficial results have been such "as to leave no doubt in my mind of the relation of the two, as cause and effect." One case was cured in a few days by the 3d dilutions of arnica, aconite, and belladonna, where an allopathic physician had considered leeches to be indispensable. Other inflammatory affections of the eye have recovered much more rapidly and satisfactorily than I ever saw them do under any other treatment.

INFLAMMATION OF THE THROAT.—The remark made by Mr. Brodribb with respect to the visibility of diseases of the eye applies also to those of the throat. I have very repeatedly seen the influence of minute doses of belladonna, mercury, hepar sulphuris, and other remedies, upon the various stages of inflammation of the throat manifested in the most unmistakable manner. The Rev. —— has had attacks of ulcerated sore throat; on the last occasion that he had the usual treatment of blisters, &c., he was laid up for six weeks. I attended him lately for a similar attack; there was a large ulcer on each tonsil; he could scarcely swallow or speak; he was very feverish; and for two nights he had been deprived of sleep. Without discontinuing his usual duties, which are very laborious, for a single hour, and without any local application of any kind, he was perfectly cured in six days. In other cases where I thought suppuration and puncture of the tonsils inevitable, all the mischief dispersed, and recovery was effected in a few days.

CROUP.—It is stated in Essay IV, that several cases of inflammatory croup have been treated after the new method. I have only to add here that the medicines were given in infinitesimal doses, and to assure my readers that the relief afforded, without any other treatment, not even a warm bath or a mustard poultice, was, in every instance, most obvious, rapid, and complete.

INFLAMMATION OF THE CHEST.—Several cases of bronchitis and some of pneumonia have come under my care during the last four years. They have had no means whatever used to relieve them but the small doses. They have recovered more quickly and satisfactorily, and the attacks have been followed with a much shorter period of convalescence than I ever before witnessed, and the cure has been permanent.

ERYSIPELAS.—This is always a serious and often a fatal complaint; it affords a good example of the confusion and inconsistency of allopathic medicine. "The practice," says Mr. Nunneley, in his work on Erysipelas, "pursued by different persons is of the most dissimilar and contradictory nature; while one party *relies upon bloodletting, freely and repeatedly performed*, as the surest and only method of cure; another and perhaps larger party, certainly as respectable, so far as authority goes, utterly repudiates the abstraction of blood, and *depends upon tonics and cordials* for the removal of the complaint. Indeed so confidently are the most opposite remedies enforced, and so contradictory are the results said to follow the application of the same means, in the hands of different persons, equally worthy of credit, that the impugner of medical skill may fairly point with confidence to this part of our field, and *demand if such contradictions are worthy of the name of a science or of trust?*"[1]

It is not so with the homœopathic treatment of erysipelas. With minute doses of belladonna, rhus, and lachesis, the usual remedies for this peculiar inflammation, I have succeeded in all the cases met with—among them were four severe ones—beyond my expectations. In one case, on the second day of the attack, the inflammation had spread over the face, ears, most of the scalp, and part of the neck, with large blisters on each cheek, with severe headache, and a pulse of 150; this was entirely well at the end of a week.

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[1] 'A Treatise on Erysipelas,' by Thomas Nunneley. London, 1841, p. 198.

RHEUMATISM.—Some cases of rheumatic fever have afforded me excellent opportunities of seeing how the small doses relieve and frequently quickly cure this otherwise intractable complaint—one of the opprobria medicorum. One case, a widow lady, of 72, who had it then for the first time, and while in a state of considerable debility, was nearly well in a fortnight. Another, a farmer, having organic disease of the heart, left by a former attack, a most severe case, with violent spasms of the heart threatening to terminate life, recovered in three weeks.

CHOLERA AND DIARRHŒA.—The numerous statements published in various countries of the great efficacy of homœopathic treatment in cholera and diarrhœa have been confirmed by my own experience as far as that has gone. In these cases the small doses have always been used, except when I was anxious to test the *principle* of homœopathy by giving ponderable quantities of the medicine indicated.

YELLOW FEVER.—The ravages which this dreadful complaint is now making in Jamaica and other islands of the West Indies are painfully calamitous: of course I have not myself treated this terrible malady; but from a trial of homœopathy, which has just been made in Barbadoes by Dr. Goding, it appears that, even after the black vomit has taken place, hitherto considered so fatal a symptom, homœopathy can still, with the blessing of God, rescue a victim from the grave. This ought to attract the attention of Governments.

My information is from the 'West Indian,' of October 28th, 1852, a Barbadoes paper, which has been kindly sent me.

These must suffice as *a specimen* of the results in the treatment of acute diseases with minute doses of medicine only. To my own mind the efficacy of the method is most palpable and satisfactory. The apprehension of an unfavourable termination in any acute attack of disease is greatly lessened; the duration of the illness is much shortened; the strength of the patient is preserved; and convalescence, often so tedious and distressing, is almost annihilated.

CHRONIC DISEASE.

Pain in the Elbow.—Mr. Ker, a shopkeeper, consulted me in August, 1850, on account of a very distressing pain in the elbow, from which he had been suffering for twelve months. He had been under surgical treatment, I believe, the whole of that time. The joint was stiff and swollen, but did not appear to me to be seriously diseased; the pain, however, was described as being at times excruciating. A single dose of staphysagria, highly diluted, was given him. In a few days I called to enquire after him, when he told me that the night he took my dose he was very strangely affected; he could scarcely describe how, but it was so powerful that he would not take any more of my medicine. "How is your elbow?" "Look!" he cried, and moving his arm in all directions in a rapid manner, declared that it was well; and so it remained.

Diabetes Mellitus.—On the 7th of March, 1850, I was consulted by Mrs. —, a widow, of about 47, who had been suffering for several years from various ailments, and had been during much of that time under the care of a physician. One of her complaints was diabetes mellitus, which had been increasing upon her for the last two years. The quantity of urine in the twenty-four hours was *fifteen pints*, and the weight of sugar contained in this exceeded *a pound*. It would be tedious to report the daily progress of this case; it must suffice to say that under the influence of minute doses of aconite, sulphur, nux vomica, china, belladonna, and some other remedies, by the middle of July she was so much recovered that the quantity of water was reduced to below three pints, that is, to the quantity natural in health; and though the presence of sugar could still be detected, it was comparatively small in quantity. She then went to the sea-side for two or three weeks. During her stay there, her son wrote to me that his "mother was so well that she did not appear to ail anything." She has since suffered in various ways from mental causes, and has had some return of the diabetes, but it has again yielded to the same remedies. It may be said of this case that the tendency to the complaint is not removed. This is granted; but while the causes which first induced the complaint are, in all probability, still surrounding the patient, it is not surprising if they succeed in bringing on second or third attacks. I have seen several cases of sugared urine formerly, but I never saw the old remedies afford such permanent benefit. Neither is it reasonable to expect that the new method will always succeed in such an untractable, and hitherto usually fatal disease.

December 28th, 1852. I called to see this patient to-day, when she told me she had not felt so well for many years as she did at present. It is now nearly three years since I first saw her in the alarming condition before described.

October 14th, 1853. She has now continued well nearly another year.

July, 1856. It is pleasant to add to the above reports that this patient continues well.

TABES MESENTERICA.—In September, 1852, Mrs. H—, from Birmingham, consulted me about her baby, eight months old, suffering from mesenteric disease. The little infant was greatly emaciated, and its mother expected that it was going to die. Excessively minute doses of sulphur and chalk were followed by a wonderful improvement in a fortnight; the medicines were repeated, and at the end of six weeks the child seemed nearly well,—its stomach almost reduced to its natural dimensions, and its limbs filling up. Mrs. H— had been at first quite incredulous, and came to me only through the persuasion of a friend; she was now so much gratified that she thought it her duty to call upon her former medical advisers, to show them the child, and to offer a copy of one of my pamphlets. An angry scene ensued, and the following conversation took place:—"I refuse to take the book; if Dr. Sharp said he was doing nothing we could respect him, but as it is we cannot." Mrs. H—: "But, sir, my child is cured!" "Yes, it has got well by letting medicine alone." "But I had tried what letting medicine alone would do for some time, and the child grew worse and worse. It began to improve from the very day Dr. Sharp's medicine was commenced; and how was it that two other babies of mine died of the same disease in your hands? If medicines do harm, and you knew that doing nothing would cure, why did not you recommend that plan?"

DISEASE OF THE LUNGS.—Mr. W. S—, aged 20, had a severe attack of inflammation in the chest during last winter, and was attended by two or three medical men. This was followed by chronic disease, during the spring and summer. His friends despaired of his recovery. When I saw him, in September, 1852, he was emaciated; had cough and expectoration; his pulse 120; occasional flushings in the face; no appetite; the whole of the right lung returned a dull sound on percussion, and there was a peculiar sound of the voice through the stethoscope.

I made no alteration in his diet or habits, and gave him nothing but infinitesimal doses of the medicines employed, such as aconite, bryony, phosphorus, &c.: these have been continued three months. He declares that he feels quite well; he looks well; his appetite is good; he has gained flesh; he takes horse exercise, notwithstanding the wet; he has not the slightest cough nor expectoration; no fever; no perspiration; and the only symptom which remains to testify the reality of his former danger, is revealed by the stethoscope; the unnatural sound of the voice, though much diminished, has not yet ceased.

PARTIAL PARALYSIS.—Mrs. M— consulted me, three months ago, for paralysis of the thumb of the right hand, which had existed for some time. She had entirely lost the use of it; for instance she could not take up a needle or hold it; she was otherwise ailing. The case reminded me of the condition of persons exposed to the poisonous influence of lead, as painters are. The billionth of a grain of lead in occasional doses for a month was prescribed, and nothing else. At the expiration of the month, her husband, a respectable farmer, called to say that she was rather better, and wished for more medicine; it was repeated for a second month, and afterwards for a third, on hearing still better accounts of her. A few days ago I was in the neighbourhood, and called unexpectedly to see her. She was sitting at her fire-side busily engaged in *sewing*, and looking so much better that I scarcely recognised her. She spoke very gratefully of her improved condition.

I am not now replying to opponents, but cannot avoid making a quotation here from Mr. Brodribb—"Lead will give rise to all the symptoms of colic, and produce a certain form of paralysis, but it will not cure either of those affections."[1] How does Mr. Brodribb know this? Has he ever tried it in these diseases in *any* dose? And if not, how can he make such an assertion?

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[1] 'Homœopathy Unveiled,' by W. P. Brodribb, 2d edit., p. 9.

Habitual Constipation.—It is a great bugbear with many, especially with many amiable amateur practitioners of the healing art, that homœopathy dispenses with the old-fashioned doses of Gregory and black draught; that it professes to be able to go on its way prosperously without the aid of calomel and colocynth, senna, salts, and jalap.

I acknowledge that at first this was difficult to accomplish, but it is a difficulty surmounted. I now never think of having recourse to these remedies in the treatment of those cases in which they have usually been considered indispensable. If they are not necessary, they must be injurious. If they can be safely laid aside, the patient must be the gainer.

But more than this. In a large number of cases of habitual constipation, I have succeeded quite beyond my own expectations in entirely removing this disagreeable condition. Some had taken aperients so long and in such increasing quantities that matters had come to extremity; one lady had taken them ten or twelve years; another told me she had never gone to bed without pills for between forty and fifty years; and another, that a pint of senna, &c., had become ineffectual; and yet an entire emancipation from this thraldom has been effected by the infinitesimal doses of the appropriate medicine. The nauseous physic was laid aside at once, and, I believe, for ever. I have the pleasure of knowing one lady who did this at 70, and she is now enjoying comfortable health at 83.

Such is a brief sketch of the results of the treatment of chronic disease.[1]

This is the case of the small dose, and the kind of evidence upon which it rests. It is right to mention that the dilution of the medicines most frequently used, in the treatment of the above cases, is the 3d—in which the grain or the drop is divided into a million of parts. The 2d (the 10,000th part) has often been used; and sometimes the 1st (the 100th part) of a grain. The 4th, 5th, 6th, and 12th have also been used; and beneficial effects have followed the administration of the 18th and the 30th. Further than this I have not gone, and do not hold myself committed to anything beyond my own observation and experience.

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[1] These cases are allowed to stand as they were reported in the Edition of 1853. The remarks which follow remain as they were first written. For further experience on this difficult question the later Essays are referred to. (1873.)

We are indebted to Hahnemann for the invention of this method of preparing and administering the remedy, as we are for calling our attention to the rule by which we are to be guided in its choice.

The difficulty of the case lies in its incredibility. It is to be hoped that this is now greatly lessened, if not removed. It is no other than that which attaches to every new statement—*its novelty.* It is the same difficulty as that which fastened itself upon the mind of the King of Siam, who would not believe that water ever became ice, because *he* had never seen this effect of cold. It vanishes before evidence. *It is credible* that the small dose can effect "a safe, speedy, and permanent cure" whenever a cure is possible, *when it is found in practice to do so.*

To those who contend that, after so many triturations and dilutions, there can be nothing left in the dose, I beg to put two questions: first, seeing that a grain of the medicinal substance is added to ninety-nine grains of sugar in the first trituration, in which particular dilution has it ceased to exist? And, secondly, if the doses contain nothing, or are "nihilities," as Mr. Brodribb calls them, how do effects such as those referred to in these Essays follow their administration?

To those who attempt to quash such statements as those made in this Essay by accusations of fraud or of falsehood, I have nothing to say. There is no common ground upon which we can meet to argue.

To conclude, one obvious fact cannot be overlooked; all who bear testimony to the efficacy of these doses have tried them, either upon themselves or upon others; while those who deny their action not only have not tested it, but, for the most part, boast that they have not; they reject the proposal to try the remedies with disdain, and continue to stigmatise those who do so as "knaves or fools," or "morally attenuated dwarfs."[1]

Right reason being our guide, with which of these two parties is truth most likely to be found?

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[1] 'The Lancet' for Nov. 6th, 1852.

ESSAY X.

THE DIFFICULTIES OF HOMŒOPATHY.

> "The fruit
> Of that forbidden tree whose mortal taste
> Brought *death* into the world, and all our woe."
> MILTON.

ESSAY X.[1]

THE DIFFICULTIES OF HOMŒOPATHY.

"Every science has its difficulties."—JOHNSON.

WHATEVER costs little trouble is commonly of small value, while that which is worth possessing is difficult to obtain. As there is no royal road to knowledge, so neither is there a smooth path for the discharge of duty and the satisfying of conscience. If the path be rugged, it behoves us to examine it the more warily; to look all difficulties in the face, and not to imitate the ostrich, which, when pursued, buries its head in the sands.

The difficulties of homœopathy are twofold:—they are either temporary or permanent. They belong to ourselves, rather than to it.

I. Of the difficulties, which it may be hoped are temporary, some have a special reference to the medical profession;—others to Hahnemann;—some arise from the public;—others from the circumstances in which the practitioners of the new method are at present placed. Of these temporary difficulties the following appear to me among the most important.

With reference to the medical profession:—

1. The *novelty* of the system now proposed to be

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[1] First published in 1853.

adopted. It is "*νέα καί ξένη*," new and strange. This is a difficulty which unavoidably attaches itself to everything which involves fundamental changes. It is a good check upon restless minds. It may sometimes impede a useful improvement, but it more frequently retards and obviates mischievous alterations. The feeling out of which the difficulty springs has its expression in the proverb "meddle not with them that are given to change." But in cases like the present it must be remembered that when a discovery of nature's truth has been made, there is no novelty in the natural facts; they have been from the beginning;—the novelty is in us, in our knowing now what we were ignorant of before. When sufficient *evidence* of facts is presented to us, unless blinded by prejudice, we cannot but believe them to be true, and believe also that they were true before we knew them, and whether we knew them or not. It frequently happens that, on further enquiry, we find that though the truth is new to us, glimpses of it have been seen from time to time in former ages, — occasionally the discovery is more entirely new. The principle or law is of the former kind, it has been indicated, though never practically carried out before Hahnemann; the action of infinitesimally small doses belongs to the latter; it is a truth of which we had little or no intimation till it was discovered by Hahnemann.

This first difficulty is inseparable from the exhibition of new truth. It has accompanied all discoveries of truth. It must be borne peaceably, until *Time* has effectually removed it.

2. The *prejudices* of education and modes of thought. These much more frequently operate injuriously than beneficially. They are wonderfully strong among the professors of the art of healing, as the history of every discovery in medicine testifies. The reception of homœopathy has not differed in this respect from that of the most valuable additions of knowledge and improvements of practice of former times. How just is the satire of Molière in the

commendatory character which M. le Docteur Diafoirus gives of his son Thomas! "Il est ferme dans la dispute, fort comme un Turc sur ses principes, ne demord jamais de son opinion, et poursuit un raisonnement jusque dans les derniers recoins de la logique. Mais, sur toute chose, ce qui me plait en lui et en quoi *il suit mon example*, c'est qu'il s'attache aveuglément aux opinions de nos anciens, et que jamais il n'a voulu comprendre ni écouter les raisons et les expériences des prétendues découvertes de notre siècle, touchant la circulation du sang, et autres opinions de même farine."[1] "He is firm in controversy, staunch as a Turk in his tenets, never swerves from his opinion, and pursues an argument to the deepest recesses of logic. But, above all, that which delights me in him, and *wherein he follows my example*, is that he attaches himself blindly to the opinions of the ancients, and has never been willing to understand nor even to listen to the pretended discoveries of our age, relative to the circulation of the blood, and other opinions of the same stamp."

From these prejudices in the minds of physicians arises a wide-spread feeling of distrust in the sincerity of the practitioners of the new system, and a disbelief in their knowledge of disease. The men we have left cannot but think that we are wilfully practising a hoax upon the public, or that, where we are not deceivers, we are ourselves deluded through ignorance. The opinion is almost general that homœopathy is a sort of "pious fraud" justified in some degree by the severity of the old treatment, and by the restorative powers of nature. When annoyed by the passing over of patients to the new system, they endeavour to console themselves with the reflection, that, like all other kinds of quackery, it will have its day, and be exploded. Even in friendly conversation we are told that we who prepare the small doses are wise, it is our patients who swallow them who are the fools.

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[1] 'Le Malade Imaginaire.'

This obstacle to the progress of homœopathy operates powerfully at present in England. The conviction that our facts are true, our sentiments just, and our intentions good will sustain us. The difficulty must be borne with patience and temper. The course of events will remove it. For, as was well observed by a writer in the 'Times,' "A man's life in these days is spent in the realization of impossibilities, in fervently denying one week what he sees put in practice the next. So wedded are we to custom, so hampered by precedents, so enslaved by habit, that we cannot bring ourselves to believe that what is wrong in our proceedings can possibly be corrected, or what is right in the practices of our neighbours can possibly be adopted. The Committee of the House of Commons which pronounced railways 'impossible,' sneered at the draining of Chat Moss, and rejected the Liverpool and Manchester railway bill out of mercy to the demented projectors, was too faithful a type of the English mind. Active and indefatigable within its own range, it recoils with a pusillanimous horror before whatever is new and untried."

3. *Self-interest* cannot be overlooked as another difficulty. It is a serious obstacle to the general reception of homœopathy by the medical profession. Where success has been already attained, change is naturally dreaded, it is likely to be for the worse; and in the less happy alternative, where "res angusta domi," straitened circumstances press, it is a doubtful plunge; — it may be into a lower depth. To turn aside from the beaten path, even where truth and conscience seem to lead, is no easy task, when the maintenance of a family is hazarded by the change. Some allowance must be made for considerations of this kind.

There are some who are deterred unnecessarily by this motive. Men who are so circumstanced that they could afford to give up the old method and adopt the new, even if they were, as probably they would be, losers for a time. They might wait for a return of practice, and be supported, during the interval, by a good conscience. A very dear friend of mine, writing an expostulatory letter to me, two or three years ago, among other things urged upon me this consideration, "*your success is my downfall!*" Not so, my dear friend, if you will get up and ride with me, you may share my success, there is abundance of room for both.

Many are wanting in moral courage. I once said to a man of very superior sense, integrity and worldly experience, "Do right and leave it:" "And be left in the lurch!" was his instant reply; and many will agree with him. I think they are mistaken, and that a longer experience and closer observation would confirm the wisdom of the Dutch maxim,

> "Doe wel en zie niet om."
> "Do what you ought, happen what may."

This, then, is a difficulty, but it is a temporary one. It may be safely left to be removed by *Time.*

4. A very pardonable *indolence* is a difficulty with all medical men who have passed the middle of life. They have already made one great effort to qualify themselves for the duties of their calling. They have spent six or seven years as students of medicine, and since that period, many more years have rolled away in its laborious practice. It is much too formidable an undertaking to set sail afresh on a new ocean of troubles, and to endeavour to guide their vessel into a foreign port. "The trouble is immense, and I have grown idle," was the candid acknowledgment of the excellent Mr Kingdon, in his paper on homœopathy, read before the Medical Society of London, in the year 1836.

From the anxiety and labour of such a task as this, the elder members of the profession must, in all reason, be excused. It is otherwise with the junior portion; nothing can acquit them from the duty of investigating the new system for themselves, and of *trying its merits in their own hands by actual experiment.* If, however, the seniors are to be excused, it is evident that this very circumstance constitutes a great difficulty, and a formidable obstacle to the progress of homœopathy. Great and formidable it doubtless is, nevertheless it is a difficulty which may be patiently borne, under the solemn reflection that *Time* is diminishing it every day, and will, ere long, remove it.

5. The fear of forfeiting *respectability*, by joining a sect so despised and ridiculed, operates as a powerful hinderance in the minds of many in the profession. The losing of "caste" for the sake of truth may be thought by some to be a slight sacrifice, but those who know human nature better will come to a different conclusion. It is in fact so great that perhaps scarcely any truth except that which relates to GOD and eternity, will be acknowledged as worthy to make the demand. If it can be required on behalf of any truth referring to this life only, we may venture to claim it for the subject we have now in hand.

Great, however, as this difficulty is for the moment, it is, I believe, a temporary difficulty. The time, I think, is not distant when the man who has embraced the new system of the art of healing, whose principle of treatment is known and whose mode of practice is simple, open, free from mystification, will be the practitioner regarded as the most truly respectable.

6. The *misrepresentation* of homœopathy by its opponents is a difficulty which I feel great reluctance to notice. Such disingenuous conduct reflects so much discredit upon my professional brethren that I would it did not exist, or that it need not be alluded to. Charges, without proof, of quackery, of fraud, and of falsehood; attempts to hinder the circulation of our books; to erase our names from college and other lists; and to refuse diplomas to our students; accompanied at the same time with the unacknowledged adoption of some of our best remedies, betray a state of feeling greatly to be lamented.

7. The general *ignorance* which prevails upon the subject is not only a great difficulty in itself, but is also

the origin of most of those we have already noticed. Both the profession and the public need to be better informed as to what homœopathy really is. How few persons have any definite idea of the *principle*, and of those who have, the great majority entertain a mistaken notion. They think that it teaches that what causes a mischief will cure it, thus confounding similis (like) with idem (the same). Some of Hahnemann's own illustrations may have tended to foster this mistake, but it is highly desirable that the point at issue should be clearly stated and understood before it is discussed. Many things taken into the stomach in a state of health are found by experience to nourish and support the body — to preserve life and health; these are called *food*. Many other things when similarly taken, are found by experience to cause pain and injury to the body—to destroy health and life; these are called *poisons*. We have also learned from experience that some of these latter substances—these poisons—when given in natural disease, act beneficially and remedially upon the diseased body. Homœopathy implies that experience further teaches us that the best mode of administering these remedial poisons is to give them in such cases of natural ailments as resemble in their symptoms those injurious effects which such poisons produce when taken in health. If a person has suffered a bruise, he is not supposed to require a second blow to cure him, as is often stated, in order to throw ridicule upon the subject; but some substance is to be sought for, which, when taken in health, will produce pains and sensations similar to those of the bruise. A plant called arnica montana does this, and a small dose of the juice of this plant is found by experience to relieve the pains of the bruise far better than any other remedy yet discovered.

It is objected that the symptoms produced by these poisons, when taken in health, and said to be similar to those symptoms in disease for which they act as remedies, are not *invariably* produced; for instance, that belladonna does not always produce symptoms resembling scarlet fever, or that mercury does not always produce salivation or ulceration of the throat. No one ever asserted that they did, nor is it at all required for the truth of homœopathy that they should. If they have *ever* unequivocally done so, it proves that they are capable of producing them, which is all that is asserted.

8. The *small dose*, which is the great obstacle to the progress of homœopathy,—the great handle of its opponents. What may be advanced in its support I have endeavoured to condense into a small space in Essay IX. It must again be emphatically stated that it is a question of *fact*, to be settled only by experiment; that those who content themselves either with ridiculing it, or with reasoning about it, will never ascertain the truth respecting it; and that it is the duty of every man to enquire into the evidence with his own eyes. Great as this obstacle is at present, it may without hesitation be classed among the temporary difficulties of the new method. Daily experience of the effects of small doses will, after a time, render their efficacy familiar to every one; as with many other marvels, the wonder will cease, and the difficulty vanish.

9. Among the many obstacles raised to hinder the progress of homœopathy, and particularly of the small dose, *ridicule* has not been forgotten. Indeed, it has been a main weapon, by the unsparing use of which it has been confidently expected that the hated thing would perish. "We cannot choose but laugh," say our opponents, and verily "the sneer of a man's own comrades trieth the muscles of courage." I have no wish to depreciate the power and efficacy of this weapon. It has doubtless prevented the reception of homœopathy by many minds, but it has not gained its end; homœopathy has not quailed before it.

Ridicule has been called the test of truth. If this be so, the new system must be true, for it has now stood exposure to every kind of banter and jest, whether witty or sarcastic, for more than half a century, and it not only exists—it advances on every side, and through every grade of society.

Ridicule, however, when boldly looked at as an argument against the statement of *facts*, is a mean scarecrow. That it should be brought to bear upon a subject so sacred as the sufferings of the human family, and the means of relieving them, is a great reflection upon the characters of those who thus venture to use it. They cannot be surprised if such conduct reminds others of the proverb, "as the crackling of thorns under a pot, so is the laughter of the fool."

Ridicule then is a difficulty, but it cannot prove more than a temporary one, and must at length recoil with unwelcome power upon the quarters from whence it has proceeded.

10. A much more important difficulty is the grave one which presents itself to the practitioner in *the choice of the dose.* To explain this it may be necessary to revert to the basis of the new science.

The properties of drugs, for the purposes of homœopathy, are discovered by healthy persons (generally physicians) taking them experimentally, and carefully recording all the symptoms produced. The dose must be sufficiently large to act injuriously upon both mind and body. By the indomitable industry and courage of Hahnemann and his friends, a vast mass of symptoms have been thus collected;—the most violent effects of the substances so examined, being learned from the cases of poisoning which unhappily occur from time to time. The list of symptoms or effects belonging to each drug is called the "proving" of the medicine. The second step in the practice is that the physician shall very carefully investigate each case of disease, presenting itself to his observation, noting all the symptoms, moral as well as physical, which he can discover; his third duty is to enquire, not as formerly, what medicines have done good in similar cases, but what drug has produced, when taken in health, symptoms resembling those of the case in hand. By this means he is guided to the best remedy which can be found for that particular patient. Of course that remedy is given alone. Here is a rule, and the mode of applying it. This is the triumph of the new method. Thus, for the first time in the history of the world, has medicine been constituted *a science.* It was previously not only merely an *art*, but a very wretched and cruel art.

Here then is an admirable guide in the choice of a remedy, but it is evident that this guide carries us no farther. When the remedy has been fixed upon, another question immediately arises, in what doses must it be given? The guide tells us (as was seen by Hippocrates more than two thousand years ago), that the dose must be *less* than that which produced the symptoms in health, but *how much less* it does not say. Here then is a practical difficulty. For some time after Hahnemann had discovered the law, or the mode of choosing the remedy just explained, he gave the drugs almost in the usual doses; but he was so troubled with ill effects, in the shape of aggravations of the symptoms, as to be compelled to diminish very much the quantity given as a dose. He was then greatly persecuted by the apothecaries, or druggists of his native country, because he necessarily prepared his own medicines, and perhaps partly to retaliate upon them,[1] and partly to carry out his views to the uttermost, he invented the method of reducing the dose to an infinitesimal quantity, and still found it to answer when prescribed according to his principle. I have put these different doses to a fair test in practice, and have no doubt that they act; but a great difficulty is felt in the want of a rule or principle to guide in the choice of the dose. When ought the remedy to be given in substance? When in the first, second, or third dilution? When in the sixth, twelfth, or thirtieth? Some cases seem to be better treated with the lower or larger, some with the higher or smaller doses. This at present is a matter of experience. Several attempts have been made to suggest rules, but as yet without success. The next great step in the improvement of medicine will be the discovery of a principle to guide in the choice of the dose and its repetition, as the law of *similia* guides us in the selection of the remedy. I cannot but entertain a sanguine hope that this will be permitted, and therefore venture to consider the want a temporary difficulty. In the mean time careful observation is not without its fruits. By experience we get empirically at right doses, (as on the old method the right remedy is sometimes got at,) and in the majority of instances, if we have succeeded in our application of the law in the selection of the remedy, our dose hits pretty effectually, though perhaps another might have succeeded better.[1]

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[1] See the 'biography of Hahnemann' in Dr. Dudgeon's 'Lectures,' p. XIV.

Difficulties with reference to Hahnemann :—

11. The first of these is *the hypothetical and metaphorical style* in which he has clothed his discoveries. This has tended in no small degree to repel many from his threshold who might have become enquirers ; and to harass and perplex those who would not allow anything to repel them. This remark is especially applicable to Hahnemann's chief work—'*The Organon of Medicine.*' I have not heard of one who has been made a convert by the perusal of it, but have known several who have been discouraged by reading it, and others who, having been homœopathists for years, acknowledge that much of it is beyond their comprehension.

The error into which, in my opinion, Hahnemann has fallen, in the composition of this work, is that he mainly labours *a theoretical explanation*, and this error is the more remarkable because he had, in the '*Principia*' of Newton, a perfect example to follow. Sir Isaac Newton, in that book, has succeeded to the admiration of the world. He gives us his great discovery, the law of gravitation, and proves it to us by irrefragable evidence, but he does not attempt to explain the nature of the force, nor its mode of action. "I have not," Newton says, "been able to discover the *cause of the properties of gravity* from phenomena, and I frame no hypothesis; for whatever is not deduced from the phenomena is to be called an hypothesis; and hypotheses, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy. . . To us it is enough that *gravity does really exist, and act according to the laws which we have explained.*"[1] Had Hahnemann been so happy as to follow this example, he would have given us his discovery in simple words, *as a naked fact*, and supported his assertion by a complete practical demonstration, free from hypothetical guesses at explanation. Herein, I think, Hahnemann has failed. Strong as an original observer, indefatigable in pursuing his discoveries, he becomes weak as other men when he begins to guess. His hypotheses are no better than those of any other writer, they must share the fate of all that have preceded them, and pass into oblivion, and as regards the interests of homœopathy, the sooner the better.

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[1] It is believed that a law for the dose is discovered in the later Essays. (1873).

That natural diseases are best treated by giving those medicines which, when taken in health, are capable of producing similar symptoms, is, if true, a natural fact, easily stated, and needs neither gloss nor explanation to make it available in daily practice. This is expressed in the '*Organon*' in the following manner:—

"A weaker dynamic affection is permanently extinguished in the living organism by a stronger one, if the latter (whilst differing in kind) is similar to the former in its manifestations."

"As every disease (not strictly surgical) depends only on a peculiar morbid derangement of our vital force in sensations and functions, when a homœopathic cure of the vital force deranged by the natural disease is accomplished by the administration of a medicinal potency selected on account of an accurate similarity of symptoms, a somewhat stronger but similar, artificial morbid affection is brought into contact with, and as it were pushed into the place of the weaker, similar natural morbid irritation, against which, the instinctive vital force now merely (though in a stronger degree). medicinally diseased, is then compelled to direct an increased amount of energy, but, on account of the shorter duration of the action of the medicinal potency that now morbidly affects it, the vital force soon overcomes this, and as it was in the first instance relieved from the material morbid affection, so it is now at last freed from the artificial (the medicinal) one, and hence is enabled again to carry on healthily the vital operations of the organism."

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[1] Close of the 'Principia.'

This is a long extract, but it was due to Hahnemann that his own voice should be heard. Another similar paragraph might be given in which he attempts to state his views by such terms as these—"Driving the enemy out of the country by foreign auxiliary troops." "The vital force advances towards the hostile disease, and yet no enemy can be overcome except by a superior power." "If in this manner we magnify to the perception of the vital principle the picture of its enemy the disease," &c. &c.

Some of my readers will be reminded by such enigmatical language of another great reformer of medicine, Paracelsus, and his enthusiasm and bombast. I marvel that it should be received as satisfactory by any body of intelligent men. "A weaker dynamic affection is permanently extinguished by a stronger one." It is obvious that, not a *fact*, but an *hypothesis* is here stated ;—a mere guess as to the mode in which remedies act upon disease, just about as likely to be true as Cullen's "spasm of the extreme vessels," or any other previous notion on the same subject. And these are the words in which Hahnemann formally announces, in his '*Organon*,' the "homœopathic law of nature." It must be observed also that Hahnemann constantly uses the words "dynamic," "spiritual," "potency," &c., by which he supposes he is accounting for vital and medicinal action, but these are terms to which he does not teach us to attach definite ideas, and which tend to bewilder and mislead, rather than to instruct.

"The diseases of man," he says, "are solely spiritual (dynamic) derangements of the spiritual power that animates the human body (the vital force)." "In all works on *Materia Medica* from Dioscorides down to the latest books on this subject . . . . all idle dreams, unfounded assumptions, and hypotheses, cunningly devised for the convenience of therapeutics . . . but the essential nature of diseases will not adapt themselves to such fantasies, . . . will not cease to be (spiritual) dynamic derangements of our spiritual vital principle in sensations and functions, that is, immaterial derangements of the state of health."

It is easy to see that "spiritual, dynamic derangements," &c., are as much hypothetical assumptions as any of those which Hahnemann denounces.

The preparation and effects of the small doses are rendered apparently absurd by the same mystic style. Medicines when triturated and diluted according to the method of Hahnemann are called by him "dynamizations," and they are said to act "dynamically," or "spiritually."

It appears to me that it has been a great mistake to obscure two discoveries, that of the principle or law, and that of the efficacy of the small dose, by clothing them in such mysterious and unintelligible words. It constitutes a great difficulty, and a real obstacle to the progress of homœopathy.

Let truth be held fast, let error be repudiated, and this great difficulty will cease to exist.

12. The *dogmatism* of Hahnemann is also a great stumbling-block and impediment in the way of enquirers. Even to many of those who have put it aside

for the purpose of fair investigation, and who have in consequence embraced the new practice, it is a great difficulty. They cannot but feel annoyed at the positive and dogmatic tone he always adopts. The brightest geniuses and the most gifted intellects do not hesitate often to say with Sydenham, "opinor," "I think;" but such an expression seems never to have escaped from the lips of Hahnemann. "His intolerance," writes his biographer, "from those who differed from him latterly attained to such an height that he used to say, 'He who does not walk on exactly the same line with me, who diverges, if it be but the breadth of a straw, to the right or to the left, is an apostate and a traitor, and with him I will have nothing to do!'"[1] Such servile following as this must be declined by every true student of nature. How very inconsistent with Hahnemann's own early career!

"It holds good and will continue to hold good as a homœopathic therapeutic maxim, *not to be refuted by any experience in the world*, that the best dose of the properly selected remedy is always the very smallest one, in one of the high dynamizations (30th) as well for chronic as for acute diseases." He does not see how this sentiment saps the foundation of his own science, which can rest upon nothing but the evidence of experience.

"That some erring physicians who would wish to be considered homœopathists, engraft some to them more convenient allopathic bad practices, often upon their nominally homœopathic treatment, is owing to ignorance of doctrine, laziness, contempt for suffering humanity, and ridiculous conceit, and, in addition to unpardonable negligence in searching for the best homœopathic specific for each case of disease, has often a base love of gain, and other dishonourable motives for its spring,—and, for its result? that they cannot cure all important and serious diseases, which pure and careful homœopathy can, and that they send many of their patients to that place whence no one returns." No uninspired man is justified in assuming such a tone as this.

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[1] Dr. Dudgeon's 'Lectures.' 'Biography of Hahnemann,' p. xliii.

The contrast between the spirit and temper of Hahnemann in his later years (he died in July, 1843, aged 89), and those of his earlier life may, I think, be in a great measure accounted for by two considerations, and which are the best apology which can be suggested, for conduct which nothing can justify, and few, I suppose, will undertake to defend.

The first circumstance is that which embittered the whole life of Hahnemann, and particularly the earlier period of it—the harsh and abusive language and unrelenting persecution he received from his professional brethren, and from the apothecaries or druggists of his country.

The second is this, by the perpetual cultivation of one train of thought, it appears to me that the mind of Hahnemann, during the latter period of his life, had nearly reached that condition which Johnson so feelingly and so vividly portrays in the Astronomer in *Rasselas.*—"One of the most learned astronomers in the world, who has spent forty years in unwearied attention to the motions and appearances of the celestial bodies, and has drawn out his soul in endless calculations." "I have possessed," says this indomitable student, at the close of this period, "for five years the regulation of the weather, and the distribution of the seasons; the sun has listened to my dictates, and passed from tropic to tropic by my direction; the clouds at my call have poured their waters, and the Nile has overflowed at my command; I have restrained the rage of the dog-star, and mitigated the fervours of the crab. I have administered this great office with exact justice." The inconsiderate smile excited by this narrative was thus rebuked:—"Few can attain this man's knowledge, and few practise his virtues; but all may suffer his calamity."

13. The want of the separate *details of the original experiments* of Hahnemann upon himself and his friends, while learning the effects of drugs upon healthy persons, creates a difficulty. The withholding them from the public by Hahnemann himself was an error in judgment, but why they are still refused to the applications of the friends of homœopathy by his widow no one seems able to explain. The lack must be supplied by the self-denying labours of others, who, by repeating the experiments of Hahnemann, will provide us with what he has omitted to supply.

14. The *sectarian spirit* of a portion of the homœopathic body, upon whom the dogmatising mantle of the old age of Hahnemann seems to have fallen, is also a difficulty of considerable magnitude with those who wish to observe carefully, to think rationally and independently, to balance conflicting evidence, and to act conscientiously. It is a serious obstacle in the way of enquirers, and consequently greatly retards the progress of the reformed practice of medicine. Should any individuals think this allusion applicable to themselves, it may be hoped that it will lead them to consider how much it would be for the credit of homœopathy if they were less tenacious of every dictum of Hahnemann.

From the public the two following difficulties arise:—

15. *Want of confidence* dependent upon the apparent insufficiency of the new treatment. Shortly after the commencement of this investigation, I was summarily dismissed by a patient, because some medicine was sent her, which, when taken to her bed-side, looked so much like plain water that she refused to take even a first dose, and immediately sent for another medical practitioner. "She could have no confidence in that sort of medicine." The leeches, and blisters, and purges of the old school were preferred. "So much," says William of Malmesbury, "does ancient custom please, and so little encouragement, though deserved,

is given to new discoveries, however consistent with truth. All are anxious to grovel in the old track."

Others, with more intelligent minds, but accustomed to indulge in doubts rather than venture upon decision, while they see and acknowledge the evils of allopathy, and have experienced some of the good of homœopathy, endeavour to stave off conviction by the ingenious suggestion of new grounds for hesitation.

While others again have minds so ill regulated that they cannot believe anything for which they have taken up a dislike; or they have committed themselves already so far against the new doctrines, that they are ashamed to retract their condemnation; or they are so in bondage to the opinions of their neighbours, and to their previous connections, that they dare not act upon their own convictions.

This difficulty, however, must disappear before the successful results of the mild treatment; confidence is daily strengthening, and hereafter, its very gentleness and pleasantness will be reckoned among its most obvious advantages. If a spoonful of what tastes like simple water will really answer the purpose better than a blister and a black draught, it will be strange indeed if the latter *continue* to be preferred.

16. *The officiousness of friends.* How often, while watching with interest and anxiety the effect of the remedies in a case of acute disease, we are met with the remark that *kind* friends have earnestly recommended a change of treatment! This is a formidable difficulty. It is an engine of resistance which has been energetically brought to bear against the progress of homœopathy. It resembles the "Old Guard" of Napoleon, —"it dies, but never surrenders." It is so bent upon its purpose that it sometimes loses sight of every other consideration. It succeeds in individual instances, but it must die if it will not surrender.

In speaking thus I venture not to impeach the motives of any one; these are doubtless often full of kindness and the best intentions. Such conduct, however, would be seen, by the light of a little calm reflection, to be inconsistent with that liberty which individuals ought to be allowed to exercise, in so personal a matter as the mode in which they or their children shall be treated when suffering from disease.

From the present circumstances of medical men, who have adopted the new system, in England, these difficulties result :—

17. The *isolated position* of each practitioner is a difficulty which, at present, affects both medical men and the public. A second opinion, in cases of emergency, or when sickness visits, as it often does, the domestic circle of the practitioner himself, is often felt to be desirable, but cannot always be obtained. His anxiety and distress under such circumstances are sometimes beyond description. He is more painfully situated in this respect than he would be in the backwoods of the "far west;"—he is not only alone, as he would be there, but he is surrounded by opponents ever on the watch for his halting. This is often a trying difficulty, and calls for patience; but time is mitigating it every day. Medical converts are increasing, and at no distant period it will be spoken of only as belonging to the past.

18. The system is made responsible for the *early failures* of new converts. No sooner has a medical man avowed his conviction that there is some truth in homœopathy, than he is assailed with a storm of ridicule and abuse; and notwithstanding all his protestations, if in any instance he happens to be unsuccessful, the case is immediately heralded abroad as a demonstration that homœopathy is "humbug." The unfairness of such a judgment must be evident to every unprejudiced person. A state of transition is necessarily a state of peculiar imperfection.

19. Homœopathy has not sufficient *schools* nor any *colleges*, as yet, in England. This is, of course, a great temporary difficulty and inconvenience. For a remedy

it has been proposed to obtain a charter from the crown, and to establish a suitable institution. I have ventured to oppose this proposal. Were it accomplished, even in the best manner possible, it would, I think, bring along with it two great evils;—it would stereotype, as it were, the present phase of homœopathy, which consists of valuable truth mixed up with many hypothetical and damaging materials, derived from Hahnemann's imaginative mind, and from the infirmities of the latter period of his life;—and it would perpetuate homœopathists as a sect, permanently dividing the profession in this country into two irreconcilable parties. Whereas, if the temporary inconvenience be submitted to, the two opposite advantages may be hoped for;—time being allowed to investigate the new method more thoroughly, the chaff may be winnowed from the wheat, and the truth based upon sufficient evidence to maintain it;—this being accomplished, the enlightened portion of the profession cannot do otherwise than adopt it, and thus it will become incorporated in our present schools and colleges, and the reformation in medicine, like the English reformation in religion, will become a national act.

Such are the *temporary* difficulties of homœopathy. They are sufficiently formidable sometimes to produce, in minds not naturally sanguine, a feeling bordering on despondency; but laborious perseverance, and generous courage, founded upon conscientious convictions, will surmount them all.

II. The difficulties which it may be expected will attach *permanently* to the new science are those which arise from the present condition of humanity, and which belong more or less even to those old sciences whose fundamental principles are best ascertained and understood. They are such as the following:—

20. A serious difficulty will always exist in *the intricacy of the mechanism of the human body, and in the mystery of life.* The derangements in the healthy

structure and functions of the various organs of the body must be hopelessly hidden from those who have not learned what that healthy structure, and those natural functions are. A limited knowledge of these things may be acquired by the study of anatomy, but this study has not only the unavoidable difficulties attaching to it which need not be described, but it has, in this country, both law and popular prejudice against it. As regards the law, such is the anomalous position of a medical practitioner in England that he is liable to punishment for culpable ignorance of that knowledge for endeavouring to obtain which he is also liable to be punished.[1]

21. If the knowledge of diseases be hard to acquire *the knowledge of remedies* is scarcely less difficult. Almost every object in nature may claim to be investigated as a remedy for disease. Having a principle to guide us in the choice of remedies must surely be a great advantage,—the old method confessedly having none,—nevertheless, even with the help of this principle the choice will always require labour, care, and study. In proving a drug (that is, in experimenting with it in health), to obtain a distinct notion of its sphere of action, and of the actual groups of symptoms it is capable of producing in the previously healthy body;—to distinguish between the different actions of a drug in proving it, and to regulate the use of it, in accordance with these frequently opposite modes of action, in prescribing it;—to learn in what constitutions, temperaments, and ages, each remedy acts most successfully,—is knowledge which can never be acquired without difficulty. The principle is simple, but to apply it skilfully in practice will always require serious and persevering labour. The choice of the dilution, and the repetition of the dose, even should a principle be discovered for our guidance, will in like manner always call for patient and diligent research.

22. Great responsibility and anxiety are inseparable

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[1] This evil is mitigated now. (1873).

from an attendance upon dangerous illness; and great difficulty and annoyance also accompany the care of all cases of indisposition not severe enough to compel a cessation from the usual business and habits of life. Generally, either these habits must be interfered with beyond what the patient is willing to submit to, or the other alternative must happen,—the medical treatment is rendered abortive by their continuance. By the first, both patient and physician are fretted and annoyed; by the second, both are disappointed. It need scarcely be added that these difficulties belong to any mode of treatment whatever, which can be had recourse to in disease.

23. Other difficulties were well enumerated by a lady, on my asking her, a short time ago, if she intended any of her sons for the medical profession; she said emphatically, No; and for these reasons:—

"The condition of medicine is unsettled and unsatisfactory. It may be hoped that this may not be permanently the case, but it is so at present.

"The practice of it entails great wear and tear of both mind and body.

"It is an occupation for which persons with anxious dispositions, which my children have, are entirely unfitted.

"It requires great bodily health and strength, which my children have not.

"To be constantly occupied in seeing people suffer and in hearing them complain, is objectionable, on account of the depressing effects it is likely to have upon their minds.

"And the selfishness and unreasonableness of many patients and their friends, and the caprice with which they act, are almost intolerable.

"With these views," she added, "you cannot wonder if I shrink from booking them for such a life of trouble and toil."—No, the wonder is that more parents are not of her way of thinking. It would be better both for the public, and for the profession, if the number of young men who are annually forced into our overstocked ranks were very greatly diminished. I shall never forget the first words I heard Abernethy utter; on entering the theatre of St. Bartholomew's Hospital, to give his introductory lecture, in the year 1825, he stood with his hands in his pockets, and looking round wistfully on the crowded audience, he exclaimed,—"God bless you! what is to become of you all?"

24. Finally, since disease and death are inevitable in a sin-stricken world, it follows that, with the best-directed efforts, and with the most efficacious remedies, the patient must sometimes suffer a great deal, be seriously ill, and at length die. The physician with all his anxiety, labour, and skill, will sometimes only imperfectly succeed, and must always in the end fail, since it is "appointed unto all men once to die." This must always continue to be a painful and often a discouraging consideration.

The work of a physician is encompassed with difficulties, his path beset with obstacles, the struggle he is engaged in, whatever advantages he may at times gain, will always end in his defeat. How happy to meet with any knowledge by which some difficulties may be diminished, some obstacles removed, some new advantages enjoyed! Enough will still remain to try to the uttermost his patience and temper, his industry and perseverance.

Were these difficulties, which at times almost lay prostrate the honest labourer in the art of healing, better known and felt, they would enlist on his behalf the sympathies of his fellow men. They are touchingly alluded to by the father of medicine in his first aphorism—

> "Ὁ βίος βραχὺς, ἡ δὲ τέχνη μακρή,
> ὁ δὲ καιρὸς ὀξὺς, ἡ δὲ πεῖρα σφαλερή,
> ἡ δὲ κρίσις χαλεπή."

> "The life is short, and the art long;
> the occasion fleeting; the experience fallacious,
> and the judgment difficult."

They were no doubt present to the mind of the son of Sirach when he said, "Honour the physician with the honour due unto him, for the Lord hath created him."

* * * * * *

"Imlac was proceeding to aggrandize his own profession, when the prince cried out, 'Enough! thou hast convinced me that no human being can ever be a poet; proceed with thy narrative.'

"'To be a poet' said Imlac, 'is indeed very difficult.' 'So difficult,' replied the prince, 'that I will at present hear no more of his difficulties.'"[1]

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[1] Rasselas.

ESSAY XI.

THE ADVANTAGES OF HOMŒOPATHY.

"It is clear, that just as it is a crime to murder a man, so is it the part of virtue and honesty to save our fellow-beings when we are able, as well as to arm others with such safeguards as we have ourselves learned. And these we may leave to the world after our death. Those who hold that it is *no matter what happens after them*, hold a wicked and inhuman doctrine."

THOMAS SYDENHAM.

On the other side, a beautiful Greek Fragment is given, and a Translation which has been written at my request for this Essay, by my valued friend the Rev. Charles Oakley, who, at the time of writing it, was a Demy of Magdalen College, Oxford.

Mr. Oakley died in 1865, while Rector of St. Paul's, Covent Garden, London. (1868.)

ODE TO HEALTH.

Ὑγίεια πρεσβίστα Μακάρων,
Μετὰ σοῦ ναίοιμι
Τὸ λειπόμενον βιοτᾶς·
Σὺ δέ μοι πρόφρων σύνοικος εἴης·
Εἰ γάρ τις ἦ πλούτου χάρις ἦ τεκέων,
Τὰς εὐδαίμονός τ' ἀνθρώποις
Βασιληίδος ἀρχᾶς ἦ πόθων,
Οὗς κρυφίοις Ἀφροδίτης ἄρκυσιν θηρεύομέν,
Ἢ εἴ τις ἄλλα θεόθεν ἀνθρώποις τέρψις,
Ἢ πόνων ἀμπνοὰ πέφανται·
Μετὰ σεῖο, μάκαιρα Υγίεια,
Τέθηλε πάντα καὶ ʼλάμπει χαρίτων ἔαρ·
Σέθεν δὲ χωρὶς, οὐδεὶς εὐδαίμων πέλει.

◆

(TRANSLATION.)

HEALTH! Eldest-born of all
The Blessed ones that be,
Through life's remainder, howe'er small,
Still may I dwell with Thee!
And Thou with me,
A willing guest,
O take thy rest!
For all man hath on earth, Blest Health,—
Each nobler gift—as children, wealth,
The bliss of kingly government,
With that desiring uncontent
We fain would seek, we fain would move,
In th' undiscovered toils of love;
These—or each other utmost pleasure
Man hath from heaven, his dearest treasure.
And amid all his earthly moil
The sweet forgetfulness of toil;—
With Thee, Blest Health! Health ever young!
With Thee they grew, from Thee they sprung;
Spring of all gifts from Heaven that fall,
Thou art the sunshine of them all!
Yet all are turned to misery
For him that lives bereft of Thee.

C. E. OAKLEY.

ESSAY XI.[1]

THE ADVANTAGES OF HOMŒOPATHY.

"What tortures inflicted on patients might have been dispensed with, had a few simple principles been earlier recognised."
SIR JOHN HERSCHEL.

HAD such of our medical brethren as remain attached to the old methods of prescribing for their patients been content to rest in their satisfaction with such methods; or had they simply given expression to their doubts as to the adequacy and trustworthiness of the new system, our duty would have been a much more courteous one to them, and a much more agreeable one to ourselves, than it is permitted to be by the course which the opponents of homœopathy have actually pursued.

The writers and speakers on behalf of the usual treatment have indulged in so much invective and abuse, and have condemned their brethren so unreservedly, both as to their ability, knowledge, and experience, and also as to the honesty of their motives, and the sincerity of their convictions, that it becomes necessary to say a few words on the defects and disadvantages of practices which nothing but long custom could have made tolerable, and nothing but unacquaintance with a better method could justify. This will show how ill it becomes men so circumstanced to write and speak as they do in the spirit of the boastful proverb, "We are the men, and wisdom shall die with us."

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[1] First published in 1853.

Allopathy, to express the usual practice by a single word, is lamentably characterised by ignorance, uncertainty, and cruelty.

The ignorance of allopathy is darkness which may be *felt*,—and that it *is* felt, the confessions of its most eminent professors testify. It has been described, with as much truth as satire, as "the art of putting large doses of poisonous drugs, of which we know little, into living bodies of which we know less." For fifteen hundred years the sole guide in medicine was the authority of Galen, who taught the crude notion that all diseases were hot or cold, dry or moist, and that all remedies must correspond to these diseases by contraries. Early in the sixteenth century the Galenical physicians were assailed with rude impetuosity by Paracelsus, who introduced chemical preparations as medicines; and their overthrow was completed, soon afterwards, by anatomical discoveries. Since the days of Paracelsus, we have had many more medical hypotheses than there have been generations. All these have one character, they are imaginary and speculative, and incapable of proof, as matters of fact. They all betray the ignorance in which physicians have hitherto been plunged.

The uncertainty of allopathy is worse than can readily be credited. A gentleman, a neighbour of mine, lately wrote of it as "the regular steady practice according to rule." What rule? I know of none. There are commonly two or three leading medical doctrines or systems which are contemporary with each other, and in direct opposition; as, for example, the doctrines of Stahl, Hoffman, and Boerhaave, in the beginning of the last century, the two former of whom were professors in the same university; the doctrines of Cullen and of Brown, towards the close of the century; those of Broussais, Clutterbuck, and Armstrong, in the early days of the present generation. "There is no truth in physic," said an experienced practitioner to me many years ago, and there can be no doubt that many have painfully shared in his conviction.

The cruelties of allopathy are also very great. They are perpetrated from good motives and with the best intentions, but they are such as nothing but the fear of death and the force of custom, more powerful than a second nature, could have induced mankind to submit to.

But it is not my purpose to dwell upon the ignorance, the uncertainty, or the cruelty of the old practice. One might, indeed, be provoked to do so by the conduct of the disciples of this school, who appropriate to themselves exclusively the title of "regular" and "legitimate;" as if the adoption of a principle, where there was none before, and the adaptation of the dose to a standard of safety and efficiency, constituted a practice irregular and unlawful. Dr. Paris or Dr. Simpson may "draw a bow at a venture," and give a quarter of a grain of arsenic at a dose, but a brother practitioner may not, under the guidance of a rule, give the hundredth or the thousandth part of a grain of the same poison, without being charged with irregularity and quackery. Such conduct betrays great ignorance both of their own position and of that of homœopathists. It would be very easy to show from the pharmacopœia of the royal college of physicians, and from the daily prescriptions of the self-designated "regular" practitioners, on which side real quackery prevails. This at least must be obvious, that whatever prospect of *curing* either party may have, there will be greater risk of *killing* the patient with the large dose of arsenic than with the small one.

But *truth* takes no cognisance of abusive appellations. They may for a time hide her beauty and cover her with disgrace, but they cannot change her character, nor transform her into falsehood. The consciousness of possessing her gives true courage, and teaches the physician to take his place beside his patient with dignified benevolence and intelligent confidence. An adequate knowledge of the new system will enable him to administer some simple means which, in acute disease, will often give relief in a few moments, and in chronic cases, will also frequently, after reasonable perseverance, restore the long-afflicted patient to health and usefulness.

Who can estimate the value of *health?* A measure of its worth may be seen in the multitude of resources to which men flee in the hope of recovering it when lost. Its preciousness is still more vividly reflected from the page of inspiration, where we see, in so many instances, the Divine power mercifully exerted to restore it.

It is the business of the present Essay to show that homœopathy is the safest and best human method to be used for the recovery of health which has yet been discovered; that it is superior to all other modes, whether professional or empirical, which have ever before been tried.

The object of the Essay is to produce the conviction that the claims of this new medical treatment, alike on the physician and on the patient, are too strong to be wisely resisted; and that it is both the duty and the interest of all men, without exception, to adopt it.

The preceding Essays are referred to for proofs of the truth of the statements here made, and the conclusions drawn from them.

It is a noble theme. It is difficult to do it justice.

I. The advantages to the physician are threefold; they are these:—

1. The emancipation of his mind from doubt and confusion.
2. The provision of a guide.
3. The simplicity of the means.

II. The advantages to the patient are likewise threefold; they are as follow:—

1. The banishment of nauseous drugs, and painful and debilitating applications.
2. Greatly increased efficacy and success.
3. Deliverance from medicinal diseases, and other

destructive consequences of former methods of treatment.

I.—THE ADVANTAGES TO THE PHYSICIAN.

1. *The emancipation of his mind from doubt and confusion.*

Interest often conceals, if it does not deny truth, and it would not be surprising if the world had been kept in ignorance of the confusion and uncertainty in which medical men are involved. They have, however, been frequently acknowledged by men of integrity and reputation. No exception can be taken to the evidence of such a witness as Cullen to the erroneous doctrines and conflicting practices of legitimate physic, previous to the discovery of homœopathy.

Now Cullen, in the introduction to his great work on the Materia Medica, gives an outline of the history of medicine, which may be briefly epitomised as follows :—

The *Egyptians*. Medicine " is known to have been under such regulations as must have been a certain obstacle to its progress and improvement." These regulations were, that the treatment of diseases was directed by fixed rules written in their sacred books ; while these rules were observed, the physician was not answerable for their success, but if he tried other means, a failure cost him his life. Many of the " regular " physicians of our time must have visited the pyramids—they have imbibed so much of the Egyptian spirit.

The *Greeks*. Hippocrates. These writings afford " a precarious and uncertain information."

Dioscorides " has been transcribed by almost every writer since ; but that this has been owing to the real value of his writings it is not easy to perceive."

Galen. " We find nothing in his writings sufficient to excuse the insolence with which he treats his predecessors, nor to support the vanity he discovers with regard to his own performances." His theory is " false and inapplicable," yet "implicitly followed by all the physicians of Asia, Africa, and Europe, for at least 1500 years after his time." This "particularly marks out how much a veneration for antiquity has retarded science."

The *Arabians*. "It does not appear that they made any improvements."

Revival in Europe. "Nothing new appeared among the physicians of Europe while they continued to be the servile followers of the Arabians."

On the taking of Constantinople, in 1453, the Greek writings were dispersed, and the Greek party prevailed.

In more recent times physic has "made very little progress among persons who are almost entirely the bigoted followers of the ancients." So far Dr. Cullen.

It is true that since this last period we have had many novelties in the theory and practice of physic;—Stahl, Hoffman, Boerhaave, Cullen himself, Brown, and Broussais, with many others, have striven to throw some light upon the dark subject, but in vain. The discovery of a principle to guide us in the use of medicines is the first ray which has illumined the gloom. It has turned night into dawn. By this discovery confusion has been reduced to regularity, habitual doubt has been converted into a prevailing confidence, a random shot into a careful aim, a hazardous and empirical experiment into a safe and methodised proceeding. The physician who has investigated and embraced this principle feels conscious that his mind is cleared of useless and endless speculations, and filled with a truth applicable every moment, and of high practical value.

That the physician remaining in the old school is bewildered with opposing theories, and oppressed with an accumulation of heterogeneous and unarranged materials, is known and acknowledged; that the homœopathic physician is freed from all these burdens is obvious: that this is a great advantage must be seen, and ought to be confessed.

2. *The provision of a guide.*

Those who have traversed the dark mountain with a trusty guide, or who have crossed the trackless ocean with the mariner's compass, can in some measure understand the feelings of the physician who has found a principle to assist him in the choice of remedies for his patients; but it is so great an advantage that it cannot be sufficiently appreciated by those who are not practically acquainted with it.

Liebig affirms that the discovery of combination in fixed proportions called chemical equivalents, "which regulates and governs all chemical actions, is acknowledged to be the most important acquisition of the present century, and the most productive in its results."[1] He ascribes the first discovery of it to Richter (a German), and the "extending and completing our knowledge" of it to Dalton (an Englishman).

The law of similia similibus curantur, which "regulates and governs" all medicinal actions, is of still greater importance to the well-being of man.

The physician who commits himself to its guidance will find it simple and intelligible, safe and merciful; and, moreover, that it secures a certainty of knowledge by requiring that only one remedy be given at a time; that it is not dependent upon any theory of disease, nor upon any hypothetical explanation of its mode of action, for its easy and successful application; that it is applicable to all cases of disease, and in all countries and climates, all ages and circumstances.

My readers are referred to Essay IV, for many examples of the modes of applying this principle in practice. Room shall be found here for a brief notice of two cases which have lately occurred to me. (1853.)

In Essay IX, the disease-producing powers of ipecacuanha, in minutely divided doses, are described; among the morbid effects thus produced are *asthma* and *hæmorrhage.*

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[1] 'Letters on Chemistry,' second series.

Miss W— consulted me for a severe attack of spasmodic *asthma*, to which she was very liable; a few drops of the second dilution of ipecacuanha were prescribed which gave her immediate relief, and in a little while permanently removed the attack.

Miss S—, who had been long ill with disease in the chest with a *large abscess* in the posterior part of the left lung, was suddenly seized, while on a journey at a distance of seventy miles from me, with a copious *spitting of blood*. This information was sent to me by telegraph, and some ipecacuanha was immediately forwarded to her by railway. The following morning another telegraphic message, followed shortly after by a letter from her mother, stated that the first dose had arrested the bleeding, and that her daughter had not coughed once all night, and only once in the morning; and that she had enjoyed some breakfast. There has been no return of the hæmorrhage, and under the influence of phosphorus this very severe case of disease has been going on favorably for above two months. The young lady can now walk a mile or more without fatigue.

1856. This patient still enjoys comfortable health.

Those who have experienced the comfort and benefit of such a guide as the principle here contended for, will not be easily induced to venture without it into the pathless wilderness of medical treatment. One additional extract will, perhaps, impress more strongly on the mind, the distressing uncertainty with which the instructions for treatment are given by the teachers of the old school. The cure of dropsy is thus laid down by the first physician of France of the last age:—

"The cure may be begun by bloodletting in certain conditions; *but in others it cannot be employed without danger.* It gives relief in difficult breathing; *but after it is practised the symptoms are aggravated and rendered more obstinate.* It is not to be concealed that some persons have been cured by repeated bloodlettings or spontaneous hæmorrhages; *but it is at the same time known that such a remedy, inopportunely employed, has in many instances hastened on the fatal event.*"[1]

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[1] Leutaud, 'Synopsis Universæ Medicinæ.'

Every one familiar with the literature of his profession will admit that this is a fair sample of the general result of his reading. How delightful to pass from this state of uncertainty, arising from conflicting human authorities, to the absolute and invariable direction of a natural guide!

That the physician of the old method has no principle to guide him is known and acknowledged; that the homœopathic physician has such a principle is obvious: that this is a great advantage, must ere long, if truth is to prevail, be acknowledged also.

3. *The simplicity of the means.*

"Look! what will serve is fit," says nature's poet; and the nearer we approach to simplicity, in the means we use, the nearer we approach to nature's perfection. Physicians have been vigorously wielding the club of giant despair, while they ought to have been observing and endeavouring to imitate the operations of nature, in which mighty effects are continually being brought about by apparently insignificant but really efficacious means.

Among the many examples which surround us, let me mention one. Little grains of sand are unlikely materials wherewith to roll back the encroachments of the mighty waters; but practically they are found to be more permanently effectual for this purpose than cliffs of solid earth. In like manner, small doses of medicine, however improbable it may appear beforehand, and without experience, are found practically to be more efficacious in arresting the progress of disease than the complicated mixtures and poisonous doses of former methods.

To borrow an expression which Dr. Thomas Chalmers often used in conversation, both these are instances of the "power of littles."

The sight of all the materials in the hands of the old physician and surgeon "is enough to make a man serious." These are lancets, cupping-glasses, and leeches; blisters, setons, issues, moxas, caustics and cauteries; emetics and purgatives, sudorifics and sialagogues, diuretics and expectorants, anodynes, tonics, and stimulants, with all the "luxuriancy of composition," of which Cullen so often speaks.

The whole course of medical treatment, as usually practised, is a rude and rough procedure, as far as possible removed from the delicacy required from us when we would try to regulate the exquisite *machinery* of the living body. It is the blacksmith undertaking with his pincers to repair a watch.

The new method, it is well known, discards all these complex and formidable weapons, and prescribes a single remedy at a time, and that to be chosen according to an invariable rule, to be prepared with the greatest care, and given in the smallest dose.

That the means made use of by the physicians following the old treatment are complicated, unwieldy, and violent, is known and acknowledged; that the means used by the physicians adopting the new treatment are simple and easy of application, is obvious: that this is a great advantage, must be true.

I recommend these three advantages to the serious consideration of my medical brethren.[1]

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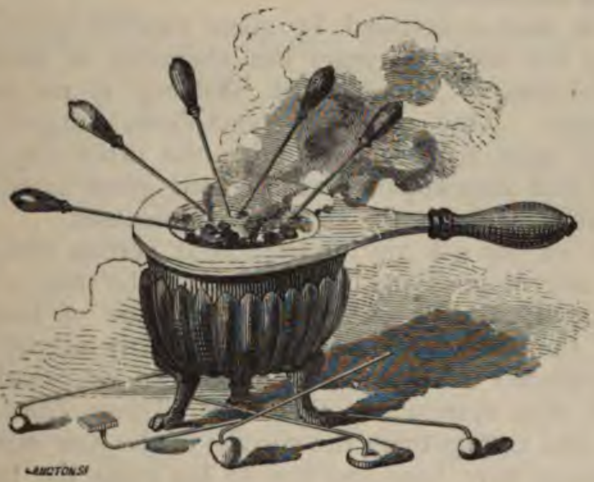
[1] Since this was written, great changes have been brought about in the practice of the best educated physicians of England. Complicated prescriptions and violent measures have been laid aside; often only a single medicine is given at a time; and the main objects of attention seem to be good nursing, and change of air. Moreover, some of the best remedies of the new system have been introduced, without acknowledgment, into the old practice.

But the principle which should guide the use of these new remedies is still rejected; and as long as this rejection is persisted in, the good effects of these excellent medicines will be casual and uncertain.

So that the old method still remains empirical, and is as liable as ever to rapid transitions from one extreme to its opposite; and, were homœopathy out of the way, there would be no security against a return to the severe treatment of former times. (1874.)

II.—THE ADVANTAGES TO THE PATIENT.

1. *The banishment of nauseous drugs, and painful and debilitating applications.*



A representation is here given of the old chafing-dish and actual cautery, as the red hot iron was called, and which has been used for a long period. I witnessed, it is to be hoped, the expiring embers of this fire in the military hospital in Paris, under the care of the Baron Larrey, as described in Essay I. In the next generation I trust it will be necessary to represent several other processes yet had recourse to, as well as to describe the calomel pill, the black draught, the steel mixture, the bark decoction, the opium bolus, and the bitter infusion, of which no description need be given to the present age.

Now, notwithstanding that some people cling to their torments, as the Prince did to his Falstaff, I cannot but think that, by the majority of patients, the banishment of all these painful operations and nauseous doses must be felt to be a great deliverance.

The avoiding of bloodletting, and the weakness caused by such loss of the vital fluid, is of itself a sufficient triumph for the new system; but when it is remembered that every painful and debilitating process, along with every disagreeable dose, is for ever abandoned, how great is the emancipation, how substantial the triumph!

It is now contended by some medical men, that during the last few years the character of diseases has become so altered that bleeding is no longer necessary. One of these practitioners urged this remark upon a patient of mine the other day, and added that homœopathy had derived great advantage from this change in the character of diseases.

But let me ask any unprejudiced person which of these two suppositions is most likely to be true;—that, contemporaneously with the introduction of homœopathy, the course of nature was suddenly altered, and the character of diseases changed, so as greatly to favour that system; or that from various considerations, and among them the success of the new method, physicians have been induced to lay aside the lancet, and to try a milder treatment, and finding this succeed better than severe measures, they have invented the former supposition to save themselves from the acknowledgment of error.

It is true that diseases do, from time to time, undergo changes in their type and character. We are indebted to Sydenham for impressively teaching us this fact. He says, "Nothing in my opinion strikes the mind that contemplates the whole domain of medicine with greater wonder than the well-known varied and inconsistent character of those diseases which we call epidemic. It is not so much that they reflect and depend upon different conditions of climate in one and the same year, as that they represent different and dissimilar constitutions of different and dissimilar years."[1] Suppose, then, it were admitted that the type of disease now prevalent is of an asthenic character,—a character of depression and debility, rather than of excitement;—allopathy substitutes tonics for bleeding and antiphlogistics; the new treatment is as much opposed to this practice as to the other; it rejects "tonics" as much as it rejects "antiphlogistics," and has better success without them than the old treatment has with them.

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[1] 'Works of Sydenham,' vol. I. p. 32.

Notwithstanding, however, the amelioration which has taken place in the severity of the usual practice since the introduction of homœopathy, and which is a tacit admission of its superior success, the difference between the two in respect to this comparative severity and mildness is still very great. A few instances will make this sufficiently apparent.

In apoplexy, locked-jaw, and other similar cases, where the power of swallowing is lost, and large doses of medicine cannot possibly be given, and where consequently the allopathic physician, if he does not bleed and blister, is able to do scarcely anything; the homœopathist is at no loss how to proceed, his drop or globule placed within the lips has still power to act, as I have witnessed, to the complete restoration of the patient.

In cases of acute inflammation, in delicate persons, where the local disease seems to call for depletion and lowering treatment, and the constitution at the same time urgently requires to be strengthened, the practitioner on the old plan is placed between Scylla and Charybdis, his efforts to relieve the inflammation, in proportion to their activity, increase the general weakness; while the homœopathist meets with nothing to perplex him, and can do good without doing harm.

Again, the suffering spared to children is immense, and must call forth the grateful feelings of all parents. Their beautiful bodies, uninjured by previous dosing, are susceptible of all the actions of the new remedies, and capable of deriving all the benefits which such actions can impart.

That patients treated after the old method are still often severely handled by their physicians is known and acknowledged; that they wholly escape this rough usage under the new method is obvious; that this is a great advantage must need no proving.

2. *Greatly increased efficacy and success.*

Some object to the possibility of this under any treatment, and contend that the duration of life is not within the power or control of man. This is true in the highest sense of the expression, but if a lower meaning be attached to it, then it is not true, and life may be prolonged by our own endeavours. In England, a hundred and fifty years ago, one out of every twenty-five of the population died each year. Fifty years ago the proportion was one in thirty-five; now it is less than one in forty-five. So that the number of deaths in proportion to the number of people is only about one half what it was a while ago. This addition to life is to be attributed mainly to more wholesome food, warmer clothing, greater cleanliness, and better habits; so much having been thus accomplished, it is not unreasonable to hope that still more may be effected by the blessing of God on these and other means, and among these means improved medical treatment will not be the least.

It must next be observed that all success in medical treatment is comparative. In London about a thousand persons, of all ages, die every week; for the most part these have died under allopathic treatment. Now if any mode of medical relief can be devised which shall diminish, however slightly, this rate of mortality, it deserves to be substituted for the older methods. The amount of general sickness greatly exceeds the amount of mortality; whatever treatment diminishes, however little, the number of deaths, will diminish very much the quantity of sickness.

The new mode of treatment is capable of being universally adopted, and should it be found on trial only to equal in efficiency former methods, for the reasons given under the last head, it is much to be preferred. Should such a trial prove it to possess superior efficacy, how greatly is that preference enhanced!

These comparative results are obtainable in two ways: by public hospital reports, and by individual trials in private practice. Through the industry of Dr. Routh, we have been furnished with a considerable collection of European hospital returns, and how much these tell in favour of homœopathy may be seen in Essay III. The results of an individual trial in private, as made by myself, are given in Essays IV and IX. This trial also testifies to the great superiority of the new treatment. If my readers will give these results their thoughtful contemplation, my belief is that the conclusion that the new treatment is followed by greatly increased success will be irresistibly forced upon their minds.

It is granted that it is difficult to produce a conviction of this increased success. But this difficulty arises, not from the increased efficacy and success being slight, or such as can be readily denied, but from the ingenuity exercised by opposing parties to evade the force of the evidence in support of it, by suggesting other modes of accounting for and explaining it. Many reject this evidence because they reason about it and conclude it improbable; forgetting that experience will often teach us what reason cannot. Others neglect it because they will not take the trouble, or think they have not time to examine it. Others again require an amount of demonstration which the subject does not admit of. For myself I have as much certainty upon this point as Locke expresses in the following sentences:—

"Though it be highly probable that millions of men do now exist, yet whilst I am alone writing this, I have not that certainty of it, which we strictly call knowledge; though *the great likelihood* of it puts me past doubt, and it is reasonable for me to do several things upon the confidence that there are men, (and men also of my acquaintance, with whom I have to do,) now in the world. Whereby we may observe how foolish and vain a thing it is for a man of narrow knowledge, who having reason given him to judge of the different evidence and probability of things, and to be swayed accordingly; *how vain*, I say, it is *to expect demonstration* and certainty *in things not capable of it*, and refuse assent to very rational propositions, and act contrary to very plain and clear truths, because they cannot be made out so evident as to surmount even the least (I will not say reason, but,) pretence of doubting. He that in the ordinary affairs of life would admit of nothing but direct plain demonstration, would be sure of nothing in this world *but of perishing quickly*."[1]

Were the method more disagreeable and painful than the old one, a reluctance to yield to the evidence in its favour, at least on the part of patients, would not be surprising; and it would be reasonable to expect that any class of medical men endeavouring to persuade the public into its adoption would meet with great difficulty in doing so; but when the case is conspicuously the reverse of this, it seems unnatural and strange that its introduction should be so strenuously resisted.

Again, were the practice of homœopathy one which the profession could not possibly adopt, and which transferred the treatment of disease to another class of persons, it would not be surprising to find that medical practitioners opposed its progress; but when the case is otherwise, it is deeply to be lamented that, through ignorance, they set themselves so strongly against the new method, and are unwilling to undertake even its patient investigation.

Nevertheless, I am fully persuaded that every fair trial of homœopathy will confirm all previous trials, and lead to the same conclusion as to its superior efficacy and success; and, therefore, cannot but believe that it will be universally adopted, and that neither the fears of the public, nor the prejudices of the profession, however they may retard this consummation, can ultimately prevent it.

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[1] Locke's 'Essay on the Human Understanding,' chap. xi, §§ 9, 10.

For that patients often die, suffer much from their ailments, and have long convalescences under the old treatment is known and acknowledged; that they less frequently die, suffer less, and have shorter convalescences under homœopathic treatment, (from the cases reported in these Essays,) is obvious; that this is a great advantage cannot be denied.

3. *Deliverance from medicinal diseases, and other destructive consequences of former methods of treatment.*

The pernicious effects of poisonous drugs, as administered in the usual manner, are of two kinds; some are immediate, others are more remote. The immediate mischief produced by some medicines is so visible that it must strike the eye of both physician and patient; indeed there are few persons who are not aware, from their own observation, that injurious consequences not unfrequently follow the taking of ordinary physic. This circumstance is so notorious that Molière asserts that "Presque tous les hommes meurent de leurs remèdes, et non pas de leurs maladies." Most people die of their remedies, and not of their diseases.

As an illustration of the mischievous effects of the ordinary practice, we will take the medicine which at present is most popular both in the profession and out of it, namely, *mercury*. This poison, in the form of *grey powder*, *blue pill*, *calomel*, or some other preparation, is given and taken every day by a multitude of people. The accumulated ill consequences of this formidable medication, whether supplied by a professional or a domestic hand, it would be quite impossible to detail; a few testimonies must suffice.

Samuel Cooper in his admirable 'Surgical Dictionary,' while describing the best modes of giving mercury, observes that when thus given it "occasionally attacks the bowels, and causes violent purging, even of blood. At other times it is suddenly determined to the mouth, and produces inflammation, ulceration, and an excessive flow of saliva." "Mercury when it falls on the mouth, produces, in many constitutions, violent inflammation which sometimes terminates in mortification."[1] I have seen it cause, in a young lady who had taken blue pill for an attack of fever, the mortification and separation *of the greater part of the lower jaw.*

Mercury sometimes produces an eruption, called *Eczema Mercuriale,* for the treatment of which Dr. A. T. Thompson prescribes, and then adds, "under this treatment the disease (produced by the mercury) generally disappears, but sometimes the morbid symptoms increase under every mode of treatment, and a fatal termination of the disease ensues."[2]

Death sometimes follows from what are considered very small doses. The following facts are from Professor Taylor:—

"Dr. Christison mentions a case in which two grains of calomel destroyed life by the severe salivation induced, as well as by ulceration of the throat. Another case was mentioned to me by a pupil, in 1839, in which five grains of calomel killed an adult by producing fatal salivation. In another instance, a little girl, aged five, took daily for three days three grains of mercury and chalk powder, (*grey powder,*) her mouth was severely affected, mortification ensued, and she died in eight days. In another case, three grains of blue pill given twice a day for three days, making eighteen grains, were ordered for a girl aged nineteen, who complained of a slight pain in her abdomen. Severe salivation supervened, and she died in twelve days."[3]

These extracts show that the ill effects which sometimes follow immediately from an ordinary dose of mercurial medicine are extreme,—even to the taking away of life. It will be readily understood that every less degree of mischief must happen much more frequently.

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[1] Cooper's 'Surgical Dictionary,' art. "Mercury."

[2] Thompson's 'Dispensatory,' art. "Mercury."

[3] Taylor's 'Medical Jurisprudence,' art. "Mercury."

The more remote consequences arising from the presence of a deleterious drug depend upon the absorption of the poison, and its retention in the body.

This fact of the absorption and retention of medicines in the body, and that for years, is not so well known as the evils last described, but it has been often proved. The following case proves it with respect to the drug now taken for an example:—

"A gentleman rubbed five grains of corrosive sublimate (by mistake for white precipitate), made into an ointment, over the abdomen for a slight ailment. From this application he suffered very severely; cold water and flour were applied to assuage his torment. Next morning the pain was lessened, and shortly after a tingling sensation only remained. No further symptom followed. Seven days after, when trying to polish the ring on his hand with one of his fingers, he was astonished at discovering an appearance of mercury on the gold, and proceeding to burnish the metal all over, he readily covered the entire surface with a plating of quicksilver. The circumstance was made known to a medical gentleman, and the discs of three sovereigns were also mercurialised. The following morning the relator of the case saw the party, and by rubbing the handle of a gold eye-glass upon the inner surface of the arm a similar result was obtained. A portion of the milled edge of a sovereign was also thus so completely coated with mercury, that no glimpse of the gold could be seen through it. The mouth was strictly examined, but not the slightest salivation, enlargement, unusual redness, or looseness of the teeth, was discernible, or had for a moment been experienced; the health was as usual, personal appearance unaltered."[1]

It is thus proved that the compound preparation of mercury which had been applied to the skin, had been absorbed; had subsequently been reduced to the metallic state; and had pervaded all parts of the body. This gentleman had not, when the account was given, suffered permanently from the presence of the metal in his system; but in other cases there has been much suffering for many years, and even for the remainder of life, from the presence of mercury.

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[1] 'London Medical and Physical Journal,' vol. LXV. p. 463.

Similar evidence might be adduced respecting other medicines in daily use, such as lead, arsenic, iodine, &c. That the ill effects which have followed the taking of them are really to be attributed to the remedies, and not to the progress of the disease for which they were given, admits of the most positive proof. Thus that medicinal diseases and destructive consequences follow the use of the ordinary doses cannot be doubted.[1]

Now let us enquire what are the effects of homœopathic doses? The objection ever on the lips of the opponents of homœopathy is this,—there is *nothing* in the dose, there are no effects; then if *no* effects follow, it is plain no *evil* effects follow;—ex nihilo nihil fit.

But that effects of a beneficial kind follow the administration of the homœopathic doses is proved by the successful results which have been detailed in former Essays; and also by the testimony of every medical man who has honestly and fairly tried them. The facts relative to the various effects of these doses are too numerous and interesting to permit me to give them now; they may, perhaps, furnish materials for a future work. We must content ourselves at present with the remark, that did injurious effects follow the use of the small doses, either immediately or remotely, as they follow the use of the large ones, the opponents of homœopathy would not omit to make the most of such a fact against it.

That patients are often immediately greatly injured by the large doses of medicines ordinarily given, and also often suffer long from the contamination of their constitutions with such poisonous drugs, is known and acknowledged; that they do not thus suffer from small doses, from the objection just quoted from opponents, is obvious; that this is a great advantage must be above suspicion and beyond dispute.

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[1] The records of hydropathic establishments afford curious confirmation of these facts.

Such I believe to be a faithful and unexaggerated picture of the advantages of homœopathy over every other form of medical treatment; and it is laid upon the conscience of every individual among my readers, who believes this with me, to extend the knowledge of it, according to his ability, until these benefits are shared in by the whole world.

1856. Some years have elapsed since the above Essay was written. The interval has been occupied by an anxious observation of facts, as exhibited in daily practice. Circumstances have brought before my notice a great variety of the worst chronic diseases, as well as a considerable number of cases of the most acute. In none of these cases, chronic or acute, has recourse been had to any treatment but that which the principle of the new method has suggested; and the medicines have been given in the small doses. No hydropathic appliances, nor any auxiliary resources, which could, in any fairness, be supposed to be the active remedial measure, have been made use of. No strictness in diet, beyond what the nature of the case seemed reasonably to demand, has been required; indeed, care in regard to food has been much less insisted upon with the new, than formerly with the old treatment. Successful results have not been sought through impressions on the imagination by precise particularities, nor through medical faith by confident assurances. On the contrary, all these agencies and influences have been carefully abstained from, and it has often been said that unless homœopathic remedies can stand alone, and do good work for themselves, they are not worth the labour of using them, or the trouble of contending for them.

The results of this enlarged experience not only confirm what has been said in this Essay, on the advantages of homœopathy to the physician, and to the patient; they demand that an advantage which may be considered as belonging to both physician and patient, should be brought into more prominent notice; namely, that homœopathic remedies not unfrequently cure cases which have been despaired of, or, at least, which have *not* been cured by well-informed and skilful practitioners prescribing after the usual method.

What kind of cases these are may be understood from the following brief outlines :—

CASES.

DIABETES MELLITUS.

In Essay IX, a very dangerous case of diabetes mellitus is described, which had been treated two years by an allopathic physician. When this patient came under my care, more than *a pound of solid sugar* was being manufactured by the kidneys *every twenty-four hours.* Her son was on the point of sailing for Australia, his passage money was to be paid that day in London; I told him his mother was, almost certainly, going to die; he gave up his intended voyage, and by the help of the telegraph just saved his passage money. According to the opinion of my old medical friends, nothing was done for this patient; I did *not* prescribe an exclusively animal diet, and gave her only such small doses of medicine as are supposed to be incapable of acting; in a few months, however, she was very nearly rid of all ailment; afterwards a relapse took place; a recurrence to the same doses removed this, and she has now kept well six years.

It will be pretended that this was an accidental natural cure. I have had another case, almost precisely similar, but, if possible, at first in a more hopeless condition. The Rev. T. C—, in an adjoining county, who consulted me on June 10th, 1854. The quantity of sugar was quite equal to that of Mrs. W—, and the debility and distress were much greater, the suffering from thirst was almost intolerable. I held out scarcely a hope that he could live. Nevertheless, the small doses were tried again, for several months, and to my great surprise and gratification he recovered; he still lives, and has resumed his usual duty.

Was this also a natural cure? It is to be remembered that this is a disease which terminates almost invariably in death. Some French writers call it "phthisie sucrée," partly because disease of the lungs often accompanies it, and partly because of its fatal termination. It is a disease on which the profession is remarkably unsettled as to its nature and treatment. "An infinity of hypotheses," says Mason Good, "have been offered" as to the nature of the disease, "and without keeping the grounds of these distinct opinions in view, nothing can be more discordant or chaotic than the remedial processes proposed by different individuals. Tonics, cardiacs, astringents, and the fullest indulgence of the voracious appetite in meals of animal food, with a total prohibition of vegetable nutriment on the one side; and emetics, diaphoretics, and venesections to deliquium, and again and again repeated, on the other: while opium in large doses takes a middle stand, as though equally offering a truce to the patient and the practitioner."[1]

SCYBALA.

Mrs. — had suffered from a great variety of distressing symptoms, and had been under the care of several able practitioners for eight years, when she consulted me, about six years ago, not long after the commencement of this investigation of homœopathy. I ascertained that one principal source of her distress was an immensely enlarged cæcum, containing a great collection of scybala. By perseverance with several homœopathic remedies, all in small doses, the accumulation was removed; the scybala were about the size of walnuts, some bigger, covered with a white, tenacious, unctuous matter, and very hard. Her painful symptoms disappeared, and she became very well and active. I suppose the cæcum in this patient is so large that it has lost the power of contraction, for since that period the collection has formed again several times, during the six years, but has always hitherto been removed by the same means.[1]

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[1] Mason Good's 'Study of Medicine,' vol. v. pp. 483, 499, 3d edition.

CANCER.

It is so much the custom for advertisers of nostrums to pretend to be able to cure cancer, that I feel afraid to relate this case; but, as I have not yet shrunk from speaking the truth in the face of reproach and ridicule, this fear must be overcome, and the case be given as seen by me. It is not supposed that any known homœopathic remedies will cure many cases of cancer, and most probably the remedies used in this case will fail in the next in which they are tried, because every case is more or less peculiar, and has to be dealt with individually.

Mrs. York, a poor woman living near Pailton, was brought to me by the Rev. Ellis Everett, early in 1855. Many years ago, she hurt the right breast with a piece of coal; five years ago, she discovered a small lump, about the size of a pea, and felt pain shooting like needles; has had six children, but none of them would nurse at that breast. The tumour increased; the nipple became retracted; and, a little before I saw it, ulceration had taken place, and the ulcer had bled occasionally. On examination, the tumour has a scirrhous or stony hardness; there is complete retraction of the nipple; and a foul-looking ulcer about the size of a sixpence. The pain is at times excruciating; she had passed the night, before I saw her, in walking about her room, not being able to lie down. She has been in the Leicester Infirmary, and was there told not to do anything with the disease; other medical men had told her that it must be removed by operation or get worse. In a few months she was so much relieved that she ceased coming to me for about half a year. In January, 1856, she came again, and resumed the remedies, having found the pain and discharge getting worse.—March 26th. She came thinking herself quite well; and again on the 7th of May. The ulcer is quite healed, and the tumour connected with it has disappeared; she has no pain whatever internally, and only an occasional soreness externally in the cicatrix. A small lump can be felt, about the size of a currant, in another part of the breast, but she was not aware of it, as it gave her no pain; the nipple of course remains retracted.[1]

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[1] This lady has been for many years and still is in the enjoyment of excellent health. (1874.)

These are chronic diseases; the following acute ones are briefly described:—

INFLAMMATION OF THE BLADDER.

On the 1st of May, 1856, I was consulted about a little boy, four months old, who was suffering *intensely* from strangury, and other symptoms of inflammation of the bladder; the mother thought he could not live till the next day. The symptoms had been gradually coming on for three months. The medical attendant was giving spiritus ætheris nitrici and laudanum. Tincture of cantharides was prescribed in the small dose. Five doses were given at intervals of two hours; the baby had a good night, without passing any water; he cried for an hour in the morning, from seven till eight o'clock, passing only a few drops; at ten, a good deal was passed without pain; and no more difficulty or suffering arose, nor was any more medicine required, except a little sulphur for a disordered state of the bowels, which occurred some days afterwards. The child has continued until now (July) quite well.

Let us ask which was the more scientific, the more rational treatment in this case? On the side of the old method a remedy is given which acts on the kidneys, and increases the flow of water into the bladder, already so irritated with the natural quantity, as to cause agonies of pain, from its efforts to expel it; what sort of sense is there in doing that? The kidneys are healthy, why should they be stimulated to increased secretion? The bladder is inflamed, and consequently irritated by the presence of the water; why should the quantity of that irritant be increased? As usual, nothing is prescribed which has any special action upon the diseased organ; for the opium cannot be said to have this; it acts upon the nervous system at large, and sometimes, in that manner, allays pain, but it cannot cure inflammation of the bladder. The principle of the new method, on the other hand, directed me to select a medicine which acts upon the organ affected. Every one knows that cantharides act upon the bladder, and often produce strangury, and sometimes inflammation of that organ. A minute quantity was sufficient to cure; fewer doses even than were actually taken would have done better; the hour's pain might probably have been avoided, if only two or three doses, instead of five, had been given. It is observed, in Essay I, that Dr. Greenfield was committed to Newgate in 1694, on the warrant of the president of the royal college of physicians in London, for prescribing cantharides in a similar case.

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[1] It is worth while to add that this poor woman is still living and quite well. (1874.)

CONGESTION OF THE BRAIN.

On the 1st of November, 1855, I was summoned by telegraph to visit the child of a clergyman; he had been ill ten days, and had been attended by a physician and surgeon, who gave a very unfavorable prognosis; in fact, they despaired of the child's life. He was completely comatose, and had the symptoms of gastric or typhus fever. In my opinion, the primary mischief was in the brain; I thought the gastric symptoms had been produced by the calomel and other remedies which had been administered. Rhus and belladonna were given, and, as it was a great distance from my residence, the surgeon obligingly volunteered to watch the case for me, so that I might have a daily report. These reports were exceedingly interesting, causing at the same time a great deal of anxiety; the gastric symptoms soon disappeared, but the coma continued many days; at one time it was accompanied with violent screams, which were removed by stramonium. Other remedies given were hellebore and hyoscyamus. The medical attendant was most urgent every day in pressing his belief that the child must die, if something more were not done. However, the remedies were persevered in, and at the end of the month I saw the little boy, free from disease, [illegible] and seated on his mother's knee; not indeed able to [illegible] very thin; but his mind quite clear, and conversa[illegible]. In a few weeks more, he was strong and stout.

ASTHMA.

Miss H—. August 19th, 1855. For the last three years has been subject to most severe attacks of asthma. The fit of difficult breathing comes on at one, or at three o'clock in the morning, with a tightness in the chest, and a hacking cough; it is then impossible to lie down; she sits up in a chair; the cough convulses the whole body, which has to be held and rubbed. Her parents thought she would have died each night during the last week; she had not been in bed for many nights. She is emaciated and weak to the last degree; and suffers also from distracting headaches. A great variety of remedial measures have been tried without success. The medicines I used were ipecacuanha, sambucus, and arsenicum. On my visit, on the 24th of September, the patient herself met me at the door; she had then recovered, and has continued well. The ipecacuanha subdued the fit; the sambucus removed the cough; and the arsenicum restored the appetite and strength.[1]

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[1] Such were the advantages of homœopathy when this Essay was written. What are they now? Some great changes, which look like approaches on the part of ordinary practitioners, have been made; such as discontinuing severe treatment, giving much less medicine, and adopting several homœopathic remedies. But fundamentally the difference is as great, and the advantages of the new method, from its further development, are greater than they were twenty years ago. It must be added with regret that the opposition is as violent and unjustifiable as ever. (1874.)

ESSAY XII.

THE COMMON SENSE OF HOMŒOPATHY.

"For myself, I here publickly profess, that I will, to the end of my days, acknowledge it as the greatest obligation that any person can confer upon me, if, in the spirit of meekness, he will point out to me any error, or enthusiastical delusion into which I have fallen, and by sufficient arguments convince me of it."

THOMAS SCOTT.

ESSAY XII.[1]

THE COMMON SENSE OF HOMŒOPATHY.

> "The God of truth, and all who know me, will bear testimony that, from my whole soul, I despise deceit, as I do all silly claims to superior wisdom and infallibility, which so many writers, by a thousand artifices, endeavour to make their readers imagine they possess." LAVATER.

On coming down to breakfast one morning, soon after the commencement of this experimental investigation of homœopathy, one of my little daughters, a child about seven years old, complained of feeling sick, and lay herself down upon the sofa. I gave her some globules of *ipecacuanha*. We sat down to breakfast, leaving her chair empty. Before the repast was over the child appeared on her seat, and her mother handed her some breakfast without remark. She ate with evident enjoyment, and having finished, she said, "I feel quite well." Her mother asked her what she thought had done her good. Her reply was this, "If I thought that such medicine *could* do me good, I should think it was the medicine, but I suppose it was the breakfast," having forgotten that before she had taken the medicine she was not able to take the breakfast.

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[1] First published in 1854.

Here we have the grand impediment to the reception of the new system of medicine. It is in vain to explain clearly what the statement professes to be, or to contend earnestly that the facts stated are true, so long as there is a previous obstacle to be removed, namely, a persuasion that the statement asserts what is impossible.

In this question of impossibility, the principle that a remedy is to be given, which, as a poison, produces similar symptoms—is not included. It may be thought improbable, but it cannot be set down as absurd. Neither is the small dose, within certain limits, exposed to the same charge. That the tenth, or the hundredth, or even the thousandth part of a grain can act in disease as a sufficient remedy, may, like the principle, be thought improbable, but can hardly be thought absurd or impossible. The doses which follow—the millionth and the billionth of a grain, or, as they are called, the third and the sixth dilutions—are separated from these by a gulph, to bridge over which is the real difficulty. So far from being anxious to conceal this, I wish to state it in all its force, and to meet it with all fairness, face to face.

The objection is founded upon the supposition that the means are inadequate to produce the result. The infinitesimal dose is pronounced to be a non-entity—it *cannot* remove disease. Hence homœopathic cures are judged impossible.

Every effect must have a cause sufficient to produce it. This is universally admitted. When we expect to cure disease by doses of medicine so small as to be inappreciable, we are accused of looking for an effect without a cause, and to do this would be opposed to right reason and common sense. "The patient is certainly better, but it is contrary to common sense to suppose that the small dose can have done him good."

My purpose in the present Essay is to endeavour to remove this great obstacle to the adoption of homœopathy.

Now, it appears to me that the objection thus raised is deprived of all force by the following considerations :—

The objection is merely an assertion. It is couched in various terms, such as, the dose is a non-entity, and can do nothing—ex nihilo nihil fit—the cause is inadequate to the effect ; the thing is contrary to common sense.

It will be observed that these statemants *prove nothing ;* they are only an assertion, or expression of the opinion of those who make them. That this assertion is groundless, devoid of proof, and worthless, appears from this :—

It is made in ignorance. What do those who make it know of the matter ? Nothing. Where are their experimental investigations ? Nowhere. What time and pains have they bestowed upon the inquiry ? None at all. They do not even profess to have studied the subject ; they would not condescend to study it ; they have too much sense. Would you have them study quackery, and listen to "humbug ?" Alas! we are all far too ignorant of the operation of natural causes, and the production of natural effects, to be justified in using such language as this. How often are we compelled to exclaim—

> "Causa latet, res est notissima."
> The cause is hidden, the effect most plain.

And the reason of our ignorance is this, *we know nothing of nature except what our bodily senses teach us.* We have no innate knowledge of the works of God. We enter upon life without ideas concerning the external world. Our minds are a blank as it respects everything in the material creation around us. But we are endowed with bodily senses capable of receiving impressions from external objects, and with mental faculties capable of acknowledging the impressions thus produced.

The impressions made upon the bodily senses by surrounding substances become ideas in the mind, which it perceives, remembers, and reasons upon, comparing one with another, and observing resemblances and differences; especially the mind is engaged in remarking the influences which natural substances exert upon each other, and in tracing the connection of these influences as cause and effect, and thus the bodies and their actions, which together make up the natural world, gradually furnish the mind with a large variety of thoughts.

Seeing, then, that it is through the bodily senses of sight, hearing, smelling, tasting and touching, that the mind obtains a knowledge of matter and its motions, and that we have no other means of adding to this knowledge, it must follow that *we know nothing beyond the mere surface of things*—of the internal actions of bodies upon each other we are wholly ignorant; hence we are not in a condition to form a correct opinion, much less to pronounce a true judgment upon any substance or operation in nature concerning which our bodily senses have, as yet, taught us nothing.

The truth of these propositions is evident upon reflection. In what department of nature do we know anything beyond what our senses teach us? What should we know about the moon if we had never seen it? What do those know of music who are born deaf? or those of colours who are born blind? We have an instructive lesson, which sets this matter in its true light, in the answer of the blind man who was asked this question, "What is *scarlet* like?" "It is like *the sound of a trumpet*," was the ready reply. The association in the mind of an Englishman of the soldier's scarlet coat with military music is obvious enough, but the inability to conceive *rightly*, (for a *wrong* conception was quickly formed), without the aid of the bodily sense, is not less obvious. We have no innate knowledge of the objects and operations of the natural or material world.

Again, the ideas of nature which exist in men's minds have come to them through their bodily senses. We all think and reason about objects we have seen, sounds we have heard, odours we have smelled, food we have tasted, and bodies we have touched. Our bodily senses receive impressions which our mental faculties acknowledge.

Thus we gain our knowledge of nature from our senses, and from no other source; for, though there is in men's minds an undefined notion that the powers of reason, or the mental sense, can discover things hidden from the bodily senses, and so can gather opinions and form judgments concerning natural substances without being dependent upon or indebted to the eye or the ear, this notion is an error. The workings of the mind may indeed produce guesses or imaginings respecting external things, but how can they perceive the reality? Such speculations cannot be more than dreams; such labours but the weaving of a fanciful garment wherewith to cover our ignorance. "For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, *and is limited thereby;* but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth cobwebs of learning, admirable for the fineness of the thread and work, but of no substance or profit."[1]

These propositions are true; the conclusion drawn from them is true also. We have no original knowledge of nature; the knowledge we acquire is obtained through our bodily senses; we have no other means of adding to this knowledge; it must follow that we cannot know anything beyond what our bodily senses teach us; that we are not in a condition to form correct opinions or true judgments concerning any substance which may exist, or any event which may happen, any cause or any effect of which we have not been informed by our external or bodily senses. Hence we are not justified in pronouncing any *un-*

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[1] Lord Bacon.

investigated phenomenon impossible, or any *unobserved* fact contrary to common sense.

The assertion, therefore, that the action of the small dose is contrary to common sense, is nothing more than the cry of ignorance, and, as such, is unworthy of attention.

Similar assertions have often been made in similar ignorance. It is no new thing for novel truth to be met by the same ignorant cry, "It is contrary to common sense!" Take, for example, the following account given by Professor Baden Powell, of the invention of the telescope, and the discovery of the moons of the planet Jupiter:—"Galileo having sufficiently improved upon his instrument, now began assiduously to direct it to the heavens. . . Jupiter formed the next object of examination, and no sooner was the telescope pointed to that planet than the existence of the satellites was detected, and their nature soon ascertained. (February, 1610.) These and other observations were described by Galileo in a tract, entitled 'Nuncius Siderius,' which excited an extraordinary sensation the moment it appeared. *Many positively denied the possibility of such discoveries;* others hesitated; all were struck with astonishment. Kepler describes, in a letter to Galileo, the impression made on him by the announcement. *He considered it totally incredible;* nevertheless, his respect for the authority of Galileo was so great that it set his brain afloat on an ocean of conjectures to discover how such a result could be rendered compatible with the order of the celestial orbits *as determined by the five regular solids.* Sizzi argued seriously with Galileo that *the appearance must be fallacious, since it would invalidate the perfection of the number* 7, which applies to the planets, as well as throughout all things natural and divine. Moreover, *these satellites are invisible to the naked eye; therefore they can exercise no influence on the earth; therefore they are useless; therefore they do not exist.*

"Others took a more decided, but still less rational mode of meeting the difficulty. The principal professor of philosophy at Padua, (in which university Galileo himself was also professor,) *pertinaciously refused to look through the telescope.* Another pointedly observed that we are not to suppose that Jupiter had four satellites given him for the purpose of immortalising the Medici (Galileo having called them the Medicean stars). A German, named Horky, suggested that the telescope, though accurate for terrestrial objects, was not true for the sky. He published a treatise, discussing the four new planets, as they were called; what they are? why they are? and what they are like? concluding *with attributing their alleged existence to Galileo's thirst of gold.*"[1]

I might give many other examples of the same melancholy kind, but the description of this one instance by Professor Powell is so clear, and touches upon so many points in which the opponents of astronomical discovery resemble the opponents of homœopathy, that further illustration is needless. In each successive age the discovery of new truth has had a similar reception,—it is always declared to be impossible, incredible, and contrary to common sense.

That the small dose should be thus treated is, therefore, only just what might be looked for. The announcement of its efficacy is startling, but not more so than that made by Galileo—"the succession of day and night is occasioned by the rotation of the earth, and not by that of the sun and stars,"—an announcement for making which it will ever be remembered that he was imprisoned in the Inquisition.

How much does the statement—that the earth moves—seem to contradict the common sense and common observation of all men! It is true, notwithstanding, as is proved by careful enquiry; and so is the action of the small dose, as is demonstrated by similar careful observation. "The works of the Creator, in every department of observation and science, present not only mysteries, but a world of wonders; yet the *reality* of these wonderful things, mysterious as they may be, is not, cannot be denied."[1]

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[1] Baden Powell's 'History of Natural Philosophy.'

It is an assertion made in indolence. The facility with which the matter in question may be tested, and ignorance respecting it be removed, is proof of this.

Every medical man, engaged in actual practice, has opportunities of putting both the principle and the dose upon trial every day. Let any practitioner resolve to look at the question with his own eyes, and he can immediately do so. Let him begin with those drugs with whose poisonous action he is already well acquainted, and in fairness, till he has more skill, give them in the lower dilutions (the first and second), and afterwards, when he has become more familiar with their use, in the higher or infinitesimal ones.

Such indolence as leads a man to pronounce an off-hand sentence of condemnation against any statement largely affecting the interests of the human family, because it is novel and startling, admits of no apology, when it is in his power, to put the statement to a practical test. "We are to strive," says William Harvey, "after *personal* experience, not to rely on the experience of others, without which indeed no one can properly become a student of any branch of natural science."

It is an assertion made in folly. We should shrink from using such a strong expression as this, had not the wise man said "he that answereth a matter before he heareth it, it is folly and shame unto him."

When a medical man tells his patient that homœopathy is "humbug," let it be said to him, "As you express yourself so decidedly, of course you have studied the subject experimentally; may I ask you how many months you spent in the practical investigation?" A child in such a situation would have red cheeks; whether an adult would feel ashamed or not I cannot tell.

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[1] Scoresby's 'Magnetism.'

When a non-professional person gives utterance to similar language, let him be told that it is unwise to condemn without knowledge; that when he comes to suffer from disease, and to experience the happy results of the new treatment in his own person, his opinion will be altered.

Such a change has just been expressed to me in the following note:—

> "Thanks to you, I am now enabled to look forward to spending a happy holiday, and, under God's blessing, many a happy and useful year, in the enjoyment of a degree of health both for my wife and for myself, which, a few months ago, I should scarcely have believed possible. And for us, and our child, if disease itself has not lost its terrors, at least we can look without dread and misgiving on the remedies for meeting it."

It is an assertion made in enmity. The question is not viewed simply with reference to its truth or falsehood. It is an "obnoxious" subject, looked upon with repugnance and contempt. There is no desire to investigate it, but on the contrary a strong determination to banish it, to crush it, to do anything to get rid of it.

And yet it is the medicine of mercy; it proposes to emancipate the suffering invalid from every disagreeable, harsh, and cruel proceeding, to which he has been so long exposed; it professes to be able to cure more quickly, safely, and pleasantly than is possible by any other means;—it promises to the physician himself the satisfaction of a scientific method, in place of vague experiments.

But it is an "obnoxious system," "false and bad," and as such it is hated and opposed, and that to such a degree as to prevent the majority of medical men from testing it experimentally, even with the view of proving the errors they so vehemently assert it to contain.

And what shall be allowed to be the weight of an assertion made so ignorantly, so indolently, so foolishly, and with such hostile feeling? Is it of force to dissipate the convictions produced in the mind by an honest trial of the new method, and a careful observation of the actual results? Can they be relinquished at such a bidding? That would indeed be opposed to reason, and "contrary to common sense." Was it not truly said, this assertion is groundless, devoid of proof, and worthless? Entertaining enough in the mouth of a child, but unbecoming in persons who have attained to years of discretion.

On the contrary;—

That homœopathy is true—and I now include in that word the principle, the moderately small dose, and also the infinitesimal dose—is substantiated by the evidence which has been brought forward in these Essays, and which shall be briefly epitomised.

It is a statement made by competent witnesses. It is observed (in Essay IV,) that the best evidence which the nature of the case admits ought to be required, and when obtained it has a claim to be received. Hence the method of enquiry must be adapted to the nature of the truth we are in search of.

Now, the true action of remedies is learned partly by experiments upon the healthy, and partly by observation at the bedside of the sick; therefore, in the matter we are at present discussing, the *physician* can be the only competent witness. The question arises, What is the kind of *medical* evidence which can be produced, and how far does it establish a credible testimony? For, "the strength and validity of every *testimony* must bear proportion with the *authority* of the testifier; and the authority of the testifier is founded upon his *ability* and *integrity;* his ability in the *knowledge* of that which he delivereth and asserteth;

his integrity in delivering and asserting *according* to his knowledge."[1]

The medical evidence in support of the truth of homœopathy is such that it is impossible to withhold assent to this testimony, if the number, the ability, and the integrity of the witnesses are permitted to have the consideration they deserve.

It is due to Hahnemann, the propounder of the system, to mention him first and alone, and to remember that he occupied a place in the best-qualified circle of his profession, and was acknowledged by many of his colleagues, as one of the accomplished physicians of his age.

Then, as regards the *number* of the witnesses. The medical men who have avowedly embraced homœopathy are now to be met with in every civilised country throughout the world. In many of these countries it is true they form, as yet, only a small minority, but the aggregate number must constitute a considerable body. In this country there are at present more than two hundred.[2] In the United States of America there are already two homœopathic universities, and upwards of three thousand legally qualified homœopathic practitioners.

And as regards *ability*, it will be sufficient to observe that, for the most part, they are converts from the ranks of regularly educated physicians and surgeons. They had been engaged, for a longer or shorter period, in the practice of their profession according to the usual methods, and it may be fairly presumed that they possess at least an average amount of professional skill and experience. In support of this opinion it may be remarked that among them there are nearly thirty professors in various European universities; nearly fifty medical and court Councillors; and at least twenty court Physicians. These last are attached to members of the courts of Austria,

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[1] Pearson.

[2] In 1856.

Prussia, Russia, Spain, Naples, Belgium, Hanover, and the smaller German States.

And lastly, as regards *integrity*. Perhaps the best mode of testing this is to enquire into the reasons which have led individuals to study and embrace the new method. Now, some of these have been induced to investigate the subject, because patients whom they had failed to benefit by the best resources of allopathy, had been afterwards cured by homœopathy. Among these is Dr. Chapman. He says, "It happened that, during my absence from Liverpool, some of my patients had been induced to try the homœopathic treatment. Some of the cures could be explained away, but several of them could only be honestly accounted for by admitting the full efficacy of the treatment that had been pursued. It will be sufficient to mention one of these. A gentleman had been subject to hæmorrhoids for some years, and the loss of blood was sometimes fearful. His bowels were habitually and obstinately constipated, and any medicine but the most gentle laxatives brought on the hæmorrhoidal flux. Astringents were of no use during the discharge: they produced mischief when taken internally. He had been under the care of several eminent men in London, and had tried many medical men in Liverpool. His condition was made rather worse than better by the efforts of all and each of us to relieve him. His life was a misery. Two or three months after he had been under homœopathic treatment, I met him one day in the street, and was astonished at the alteration in his appearance. From being emaciated, he had grown stout, and was altogether in excellent condition. I asked him what he had been doing, and thereupon he told me of his having swooned away in London from the loss of blood; that a homœopathic physician had attended him; that he had suffered no loss of blood since; that his bowels were regular; and that he no longer suffered any inconvenience from the trying, and, in his case, dangerous complaint he had suffered from a dozen years or more. This and several other concurrent cases of my own patients, successfully treated by this method at the same time, induced me to lay aside my prejudice against the apparent absurdity of the doses, *so far as to test by actual experiment* their efficacy and value. I was immediately convinced the doses were efficacious, and conviction of the truth of the doctrine followed." Many "urged their eager remonstrances, but my duty was plain so soon as I became convinced; and it was *the sincerity of my conviction which gave me the courage to persevere.*"

Others have been persuaded to examine the new system by the representation of medical friends who had previously become converts, and whom they respected as honest and conscientious men. Of this number I am one; having been urged to undertake the investigation described in these Essays, by my friend Dr. Ramsbotham. It was represented to me that I had had ample experience of the usual methods, which would enable me to compare the new one with them; that, having retired from the laborious part of my professional duties, I had leisure and opportunity; and, in short, that it was my duty. I hesitated at first, but it had been laid on my conscience, and after some consideration, I determined to take two years and to give it a full investigation. I had no other wish than to discover the truth.

Others again have engaged in the laborious task expressly for the purpose of proving homœopathy to be a fallacy. Dr. H. V. Malan is one of these. He has favoured me with the following account:—

"After having lived for some years in the house of a homœopathic physician in Germany, and seen his practice, and heard him speak and teach, I went to Paris in 1840, and located myself very near Hahnemann's residence; I called on him almost the next morning, and told him at once that I had come to him with the desire and intention to study and know thoroughly homœopathy, in order to write, if possible, the best book against it. He received me and listened to me most kindly, and immediately put me in the way of best studying, but he added, with his usual benevolent smile, 'You never will write your book.' Most generously he directed my studies for more than a whole year, and I need not add his word was true—I never wrote the book."

The number, the skill, and the integrity of the medical witnesses to the truth of homœopathy are amply sufficient to make the statement credible.

The two arguments in Professor Simpson's book against homœopathy are the dishonesty of the men who have adopted the new treatment, and the fallacy of their observations. The first argument I shall not condescend to notice. If Dr. Simpson thinks proper to take upon himself the responsibility of questioning my sincerity, or of asserting that I have treated my patients "fraudulently," I am content to wait till we both appear before another, and at our time of life, no very distant tribunal. The second agument is so often advanced by medical men that it claims more attention. It is thus stated—

"The mere successful natural termination of a case, or of a series of cases, is no sufficient criterion of the successful medical treatment of them; or, in other words, of the reality of their cure. Every quack medicine, from the universal panacea of the old elixir of life, or Berkeley's tar-water, or Perkin's tractors,—down to Solomon's Balm of Gilead, or Mr. Lee's brandy-and-salt,—or Parr's, or Morison's, or Holloway's pills; or every quack system of medicine, from the doctrine of charms and signatures, down to the modern thirst-cure, hunger-cure, and grape-cure of the Germans, or the prevailing system of chronothermalism, coffinism, kinesipathy, hydropathy, isopathy, &c., &c.,—has, as every one knows, its hundreds or thousands of supposed cures or coincidences to boast of. Of the propounders and patrons of these diversified universal cures, and systems of cures, one and all, confidently appeal to the results of so-called *experience* in proof of the special efficacy and success of their own special and exclusive system of treatment; and it would be strange indeed, and a very unusual exception to a very general law, if homœopathy had not also its numerous alleged cures, and its results of *experience* also to adduce and boast of."[1]

Without noticing the sneering manner in which this argument is expressed, it may be remarked in reply—

First. The argument of *experience* is in itself a good argument. Upon what else does Dr. Simpson rest the claims of chloroform? Is it not simply on experience? Upon what is all legitimate medical treatment founded? Is it not on experience? It is true that, ever since the days of Hippocrates, experience has been acknowledged to be deceitful, and a true judgment of what it testifies, difficult; but, in the absence of any better test, it is our duty to appeal to it. What else can be done in an affair in which we have no other guide?

Secondly. It is clear that the value of any appeal to experience depends upon the qualifications and capability of judging possessed by the persons by whom the appeal is made. Every unprejudiced person will see the necessity for this distinction. A landsman's opinion or testimony on a nautical affair will scarcely be relied upon; and for the same reason a tradesman's evidence on medical treatment cannot have much weight with it. Now the recommenders of the various remedies and modes of treatment referred to by Dr. Simpson were, with scarcely any exceptions, unprofessional persons;—a powerful advocate of one of them was a respectable shoemaker, whose opinion on the merits of a pair of shoes we should be willing to take, but we are not therefore obliged to receive with equal respect his testimony upon a medical question, about which his information must necessarily be limited. The witnesses in favour of homœopathy are *medical* witnesses. All remedies must depend, for their credit, equally on experience, and the only reason why we adopt one with confidence, and view another with distrust, is the difference in the character of the witnesses for each, — their competence, or their incompetence.

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[1] Simpson's 'Homœopathy,' pp. 78, 79.

Thirdly. If to reason thus,—a bishop has overestimated a valuable remedy, other *non-medical* persons, as a money speculation, advertise the cures performed by their nostrums, *therefore* the experience of *physicians*, who are testing homœopathic remedies daily in their practice, is false and of no value;—if this be good logic and sound reasoning, then chloroform, and every other remedy which medical men can possibly use, are equally condemned by the same argument. This consideration shows the folly of the argument.

Fourthly. When Dr. Simpson sneers at Parr's and Morison's pills, &c., why does he not add to the catalogue of quack remedies, Plummer's pills, Griffith's mixture, Dover's powder, Ward's paste, James's powder, &c., &c.? Because all these "quack" medicines have been adopted by legitimate physicians, and are to be found in the Pharmacopœias of the Royal Colleges! In due time we shall see homœopathy recognised in a similar manner.

It is a statement made upon sufficient evidence. If the witnesses are competent, so is their evidence complete. What does it amount to? It amounts to this, that, being medical practitioners, regularly educated and duly qualified, and having had more or less experience—this experience in some cases equalling that of any other of their professional colleagues—they have tried the new practice experimentally, with every precaution in their power to avoid mistake; they have, in this practical manner, been persuaded of its actual and positive superiority over their former methods, and they have had the honesty and the courage to avow their conviction of its truth and value. It amounts to this, that cases of every description have been published by hundreds, with all the accuracy and precision of diagnosis and treatment with which the profession is familiar, and which, in accordance with the progress of modern science, it demands;—cases of the most acute and dangerous character; cases of the most familiar and well-known diseases; cases of the most obstinate and refractory chronic ailments; cases of diseases in children, in adults, in old age; cases in public hospitals, and in private practice; cases in courts and in cottages; cases from among the most intelligent and the most illiterate; and all affording evidence of superior success to that which has been presented in the similar reports of any other kind of treatment. It amounts to this, that if the evidence upon which the truth of homœopathy now rests, be not sufficient to establish it, then nothing can be established as true upon any evidence whatever; and without faith in human testimony, how are we to proceed in the ordinary affairs of life? "There is no science taught without original belief, there are no letters learned without preceding faith. There is no justice executed, no commerce maintained, no business prosecuted, without this; all secular affairs are transacted, all great achievements are attempted, all hopes, desires, and inclinations are preserved by this human faith, grounded upon the testimony of man."[1]

The question is a question of evidence; the evidence is sufficient; reason and common sense demand our assent.

And why not? Similar statements have been received upon similar evidence. The ground on which the reception of homœopathy is advocated, is that which is the basis of all experimental philosophy; it is on the plea of observation—on the testimony of our senses. Every department of science contains numerous instances in which the most unexpected and important results arise out of apparently insignificant and inadequate causes. A few examples may be given:—

In *Magnetism:* take a poker, or bar of iron, not previously magnetic, hold it in a position parallel with the earth's axis, and strike the upper or northern extremity a rather smart blow with a hammer,—the poker or bar will have become a magnet; it will now attract particles of iron, and it will attract and repel the poles of other magnets. Now hold it horizontally, and strike the opposite or southern end a similar blow, and it will cease to be a magnet,—it will no longer attract iron, nor attract and repel other magnets. What marvellous effects from such a simple action!

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[1] Pearson.

In *Chemistry:* every experiment is an illustration. It is impossible to anticipate the results of a single case in which elements combine, or in which compounds are decomposed. The effects are always startling. It is this which gives to lectures on chemistry their exciting interest. You place a piece of metal (potassium) upon a lump of ice,—it bursts into flame, and produces a solution of potash! You apply an electric spark to a mixture of oxygen and hydrogen gases, you have, on the instant, an explosion like that of a magazine of gunpowder, and a drop of water results! You mix colourless liquid ingredients and obtain, in a succession of instances, solids having all the colours of the rainbow!

In *Mechanics:* as an example on a small scale, take some biniodide of mercury, spread it upon a sheet of paper, and hold it over a lamp,—in a moment or two, the brilliant red, equal to vermilion, becomes a fine yellow, and remains so, even after it has been allowed to cool;—take a knife or spatula, and pass it over the yellow powder with a little pressure and friction, and the beautiful vermilion is instantly restored. In these metamorphoses there is no chemical change, but simply a difference in the mechanical arrangement of the particles of the compound of mercury and iodine.

As an example on a larger scale, look at a railway train, and marvel how a smooth iron wheel passing over a smooth iron bar can, by what is called the resistance of friction, drag after it a weight of many tons in carriages and luggage.

In *Botany*, the grafting of fruit trees may be adduced as an example. What a childish proceeding it would appear when first attempted, and how unlikely to be productive of important results! And yet the evidence of facts has overcome the apparent absurdity, and the practice is universally adopted.

Moreover, the ground upon which the claims of homœopathy rest, is the ground upon which all the common affairs of life necessarily rest. Whatever may have been the previous notion of probability, it is the actual fact which determines the point. Just now all are noticing the sudden changes in the weather. We go to bed under the canopy of heaven glittering with stars, and there is a hard frost; we expect the roads will be dry and clean in the morning, and the boys think of their skates. We get up and find only clouds, rain, and dirt. And so of every thing. "That will probably happen which to all human calculation seems the most *unlikely*."

Hahnemann, in his 'Organon,' keeps in the background the practical fact, and labours to establish a speculative explanation of it. His followers do not agree in adopting his explanation, but, so far as I am acquainted with their writings, they all have some hypothesis of their own. I have been condemned for not accepting any of these. I respectfully decline them all, and offer no explanation. By this course, homœopathy is placed upon a foundation which it has not yet fairly occupied; and henceforward it will be in vain for its opponents to attack it as they have hitherto done. It is presented as *a fact, supported by sufficient evidence*, and to assail it as such will be found a task much more difficult than to criticise speculations however ingenious.

The question is thus greatly simplified, and reduced to one alternative. Either the thing is true, or the testimony is false. To settle this point both reasoning and assertion are alike impertinent. The testimony has a claim to be received, the thing is true "according to the evidence," *until* facts—the result of trials at least as numerous, on the testimony of witnesses at least of equal ability and integrity—are brought forward to support the opposite probability.

It is a statement beyond previous experience, but not opposed to reason, or contrary to common sense. I will not attempt a definition of "common sense." A term in daily use must often be applied indefinitely. It sometimes signifies merely former knowledge or previous experience; at others it implies the highest exercise of human reason. Many things may be *beyond* common sense, in the first meaning, but not *contrary* to it; and many things may be *above* common sense, in the last signification, but not *opposed to* it.

Taking common sense to mean, as it often does, previous experience, then every new discovery or invention is beyond, though not contrary to, common sense. The first use of the mariner's compass would be quite beyond all previous knowledge, and doubtless was ridiculed as contrary to reason; it would be said of it that though true upon the land, it was false upon the water. With the first use of everything, it has been as we have seen it was in the case of the telescope and the satellites of Jupiter. And so with the small dose. It had never occurred to any one to try it before. It was new to experience; it was beyond former knowledge, but it was not contrary to either. There had been no previous experience; there had been no knowledge to which it could be contrary. The experiment discovered a new fact. The observation of the new fact simply became knowledge in the place of ignorance. When it was said, therefore, that "the patient is certainly better, but it is contrary to common sense to suppose that the small dose can have done him good," it meant only that a cure by the small dose was beyond that person's previous experience; he had not known such a fact before; it was *new to him*, but he will scarcely presume to say, on reflection, that *therefore* it could not be true.

This statement is beyond previous experience, but before any one can with justice say it is contrary to common sense, he must try the doses sufficiently to gain from experience the knowledge that they do no good. Those who have hitherto used this language have not tried these experiments. It has been uttered in ignorance. A few years ago, a book was written to prove the impossibility of steamships navigating the Atlantic, it was contrary to common sense; the answer to which, as every one knows, was the immediate performance of the impossible undertaking; it was simply beyond previous experience; the experiment had never before been made. When Mr. Stephenson had invented his locomotive engine, to move upon smooth iron rails—having discovered that the resistance of friction would be sufficient to prevent the rotation without progression of the wheels—he did not venture to propose a speed of more than twelve miles an hour, and even this proposition was laughed at as contrary to common sense; had he said forty miles, his discovery would have been scouted, and railway travelling, perhaps, a thing yet unknown.

To drag forward common sense in this manner, as opposed to new experiments and investigations of nature, is greatly to dishonour it. Where there is no experience, what common sense does, in such a case, is to urge enquiry, and to dictate a suspension of judgment until enquiry is completed.

Again, taking common sense in its other signification, as the highest human reason, the new fact may be *above* this reason to understand or explain, but it cannot be *opposed to* reason if it exist, nor can it be opposed to reason for us to believe in its existence, if that is proved to us by sufficient evidence.

I have observed that we know nothing of the objects in nature beyond their *surface;* the knowledge which our bodily senses give us not extending beyond that. Even if our intellectual vision *could* penetrate below the surface, and show us something of the interior mechanism, our circle of knowledge would still be a contracted one. All nature being the handiwork of a Being infinite in wisdom and power, it must, of necessity, be *beyond* the grasp of a finite intelligence like the human mind. But the internal movements of the particles of all bodies, and their mode of acting on each other, are not within our ken, however much we may long to know them. Everything therefore is a mystery, and it is the attribute of the highest reason to be chiefly employed in the discovery of facts. We are surrounded by marvels which we cannot explain; I will mention only three. The sun will take your likeness in a moment of time; a message may be sent hundreds of miles still more instantaneously; any one may breakfast at Rugby, be in London (82 miles) in two hours, spend six hours in that city, and be at home to dinner. Now these are marvels which even our own fathers never dreamed of; had we talked to them about such things, they would have thought us insane, and yet they are true. It is not the less a fact because it is a marvel, that the sun will take your picture in a moment. It is not the less a fact because it is a marvel, that a message may be sent instantaneously any distance by a wire of metal. It is not the less a fact because it is a marvel, that any one can travel forty miles an hour. And if we have marvels in the science of light, why may we not have a marvel in the science of medicine? If a marvel of electricity, why not in medicine? If in mechanics, it is asked again, why not in medicine? If in the things which concern inanimate bodies, why not much more in the things which belong to living beings?

The works of God are for ever setting our reason at defiance. If we attempt to take one step beyond the evidences of our bodily senses, except to draw a few useful inferences, with a view to make some practical applications, we lose ourselves at once in conjecture. "Things perceived by sense are more assured and manifest than matters inferred by reason; inasmuch as the latter proceed from and are illustrated by the former."[1]

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[1] William Havey.

It results from these remarks that if the statement of a new marvel bears the rigid scrutiny of careful observation, common sense or reason at once admits its truth; and thus the common sense of homœopathy lies, where the common sense of everything else lies, —in the truth and value of the fact.

It is a statement which admits of ready confirmation. "Is there anything more difficult than the establishment of a fact?" said a very intelligent neighbour to me the other day. My reply is, that though the establishment of a new fact may be difficult, it is not impossible. Any fact may be established by evidence, but some men may not like to see the evidence. "Dissatisfaction with evidence may possibly be men's own fault."[1]

The confirmation of the fact we are now considering is open to the observation of any medical practitioner every day, and that without reading books on homœopathy. He knows well that *ipecacuanha* causes sickness; when he is requested to prescribe for a child who is suffering from sickness and vomiting from a disordered stomach, let him give a few small doses of this drug. He will thus at once test both the principle and the dose; and unless there is something more about the case than I have supposed, he will find his patient very quickly cured. He knows that *mercury* acts upon the salivary glands; let him give it in a case of mumps, and he will find his patient recover more rapidly than he has been accustomed to observe. He knows that *corrosive sublimate* produces dysentery; let him give this substance in an ordinary case of dysentery, and the disease will most probably yield more speedily than if he had adopted any other mode of treatment. He knows that *white hellebore* is a most powerful purgative; let him give it in a purging, if chilliness or collapse be an accompanying symptom, and he will perhaps be surprised at the beneficial result. He knows that *arsenic* and *phosphorus* produce inflammation of the stomach and bowels; let him have courage to try either of these poisons, and he will probably see severe sufferings subside under the influence of the small dose. He knows that *cantharides* act upon the bladder, and readily cause strangury; let him give them in a similar case, and his patient will most likely need no other remedy. He knows that *nux vomica* acts very much upon the spinal marrow, and upon the organs dependent upon the spinal nerves, and those of the great sympathetic; let him try it in various affections of these organs, and he will often succeed in curing his patient. He knows that *lead* often causes paralysis of the extremities; let him give it in cases resembling those of poisoning by lead, but which have arisen from some other cause, and he may find a very difficult and troublesome affection considerably relieved.

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[1] Butler.

If the practitioner is acquainted with the literature of his profession, he will know that *copper* and *stramonium* produce muscular spasm; *ipecacuanha*, symptoms resembling asthma; *cocculus*, paroxysms of vertigo with nausea; *antimony*, derangement of the stomach and chest; *sulphur* and *arsenic*, affections of the skin. From the same sources he will know the injurious effects of other substances, when acting as poisons upon persons previously in health.

So far as I have yet learned, every medical man who has thus examined the subject, with candour and perseverance, has seen and acknowledged the confirmation in his own hands of the truth of the statement. Nothing remains but for others to pursue a similar course; but if men will not look through Galileo's telescope, it is not surprising if they do not see Jupiter's moons.

Before concluding this Essay another topic must be noticed. There is a strong feeling in the minds of professional men that homœopathy is only a species of quackery, and that its practitioners are nothing better than charlatans. This is not true. It is granted that there are a few persons practising homœopathy whose temperaments are somewhat tinctured with the spirit of quackery, as there are in the ranks of our opponents, but there are many wholly free from it; and, as regards homœopathy itself, it is as far removed from quackery as light is from darkness. What is quackery? A pretension to some sovereign remedy, to be purchased of such a person. The exclusive sale of this nostrum, the composition of which is carefully concealed, being often secured to the vendor, by her Majesty's letters patent; or it is "fifty thousand cures without medicine," by some article of diet, sold exclusively in a similar manner. What is there in homœopathy at all resembling this? Where are its secrets? its nostrums? its exclusive sales? They are not found; and the person who calls homœopathy quackery, must be content to be condemned as either very ignorant, or guilty of knowingly uttering untruth.

In laying before my professional brethren the results of this independent investigation, I have fulfilled a duty, and given an honest testimony; and it is now laid on the conscience of every practitioner, as it was laid upon my own, to investigate the matter for himself. "I therefore whisper in your ear, friendly reader, and recommend you to weigh carefully in the balance of exact experiment all that I have delivered in these exercises. I would not that you gave credit to aught they contain, save in so far as you find it confirmed and borne out by the unquestionable testimony of your own senses."[1]

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[1] William Harvey.

ESSAY XIII.

REVIEW OF HAHNEMANN'S SYSTEM.

"He (Sir Isaac Newton) wanted no other recommendation for any one article of science than the recommendation of *evidence;* and with this recommendation he opened to it the chamber of his mind, though authority scowled upon it, and taste was disgusted by it, and fashion was ashamed of it."

THOMAS CHALMERS.

ESSAY XIII.[1]

REVIEW OF HAHNEMANN'S SYSTEM.

> "In natural science there is one language universally intelligible, *the language of facts ;* it belongs to nature, and it is permanent as the objects of nature."—SIR HUMPHRY DAVY.

MOST of the preceding Essays were first published three or four years ago. They were written during the two years which I originally allowed myself for the investigation of the new system of medicine to which the name of homœopathy has been given. As some time has elapsed since that period, and as I continue to practise exclusively according to the principle of the new system, it may be expected that some further account of the progress of the enquiry should be given. In this Essay, therefore, the results of the investigation, up to the present moment, shall be briefly stated.

These results are presented to my professional brethren with all due respect ; but at the same time in all sincerity and earnestness. I beg them to listen to me as a witness of what I have seen ; or, if the language of another profession may be adopted, of what I know of my own knowledge.

I. First, some account shall be given of those things in the system and teaching of Hahnemann which are rejected.

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[1] First published in 1856.

II. A recapitulation shall be made of what the practical trial of homœopathy has led me to acknowledge and accept as true.

III. It shall then be stated what those parts of the usual method of treating diseases are, the discontinuance of which is involved in the adoption of the new system.

IV. Lastly, it shall be pointed out what those parts of the usual method are, which still remain available and useful, and are retained.

I. The following are statements of Hahnemann which are rejected.

1. The explanation of the principle of homœopathy thus announced in the 'Organon':—

"As every disease (not strictly surgical) depends only on a peculiar morbid derangement of our vital force in sensations and functions, when a homœopathic cure of the vital force deranged by the natural disease is accomplished by the administration of a medicinal potency selected on account of an accurate similarity of symptoms, a somewhat stronger but similar artificial morbid affection is brought into contact with, and as it were, pushed into the place of the weaker, similar, natural, morbid irritation, against which the instinctive vital force now merely (though in a stronger degree) medicinally diseased, is then compelled to direct an increased amount of energy, but on account of the shorter duration of the action of the medicinal potency that now morbidly affects it, the vital force soon overcomes this, and as it was in the first instance relieved from the material morbid affection, so it is now at last freed from the artificial (the medicinal) one, and hence is enabled again to carry on healthily the vital operations of the organism."[1]

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[1] 'Organon,' § xxix.

This explanation of the principle is fanciful and illusory, and as such is necessarily rejected.

2. Not only is Hahnemann's exposition of the principle an imaginary hypothesis, but the very statement itself of the homœopathic law, which he gives, has no trustworthy evidence to support it. On the contrary, his statement is open to an insuperable objection, so that if it really expresses the principle of homœopathy, that principle itself must be rejected.

"The following," says Hahnemann, "is the homœopathic law of nature, some vague presentiment of which has indeed occasionally been entertained, but which, until now, has not been acknowledged, and on which depends every real cure that has ever taken place.

"A weaker dynamic affection is permanently extinguished in the living organism by a stronger one, if the latter (while differing in kind) is similar to the former in its manifestations."[1]

This has been already rejected in Essay VI. "The medicinal disease," he says, "must naturally be somewhat stronger than the malady to be cured, if it is to overpower and extinguish the latter;"[2] and thus "the instinctive vital force is compelled to direct an increased amount of energy" to overcome this artificial morbid affection, which has been "as it were pushed into the place of the weaker, similar, natural, morbid irritation."

This definition of the principle is wholly rejected; for the adoption of it would compel me to believe that the vital force can overcome a stronger disease when it is not able to overcome a similar but weaker one.

3. As the explanation of the principle given by Hahnemann is an imaginary hypothesis, and his definition of it a mere assertion without proof, so his view of the extent to which it applies is vague and erroneous. He was apparently so enamoured with his discovery,

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[1] 'Organon,' § xxvi.

[2] Ibid., § clviii.

and his imagination was so unrestrained by reason and judgment, that he could not brook the idea of any limitation of his law; he would have it to be of universal application. Do the symptoms of a disease on any occasion subside while those of another ailment arise? —this must be homœopathy; "invariably and in every case (such is the dogmatic assertion) do two diseases, differing certainly in kind, but very similar in their phenomena and effects, and in the sufferings and symptoms they severally produce, annihilate one another, whenever they meet together in the organism."[1] Does "the brilliant Jupiter vanish in the early dawn from the gaze of the beholder,"—this must be homœopathy. The weaker light is annihilated "by a stronger very similar power acting on his optic nerve, the brightness of approaching day."[2] Fetid odours are to be homœopathically cured by taking snuff! The cries of battle are to be homœopathically banished from the ear "by the shrill notes of the fife, and the roll of the noisy drum!" The fear inspired by the roar of the enemy's cannon is to be homœopathically destroyed "by the mimic thunder of the big drum!"[3] And so of the physical agencies, heat, electricity, and magnetism; all, with the most extraordinary confusion of thought and boldness of assertion, all are pressed into the service, all are compelled to be subservient to the favorite discovery, the law of "similia similibus curantur." Nor does Hahnemann stop here; he rushes with reckless impetuosity to measure mental emotions and moral feelings with the same material rule. For, says he, "thus are cured both physical affections and moral maladies." "Mourning and sorrow will be *effaced* from the mind, by the account of another and still greater cause for sorrow happening to another, even though it be a mere fiction." Even nations, in their political career and national developements, are not to be exempted from the universal law,—they are to progress homœopathically, and not otherwise. "Nations, like the Germans, who have for centuries been gradually sinking deeper and deeper in soulless apathy and degrading serfdom, must first be trodden still deeper in the dust by the Western Conqueror, until their situation became intolerable; their mean opinion of themselves was thereby overstrained and removed; they then became [being homœopathically cured] alive to their dignity as men, and then for the first time they raised their heads as Germans!"[1]

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[1] 'Organon,' § xlv.

[2] Ibid., § xxvi, note.

[3] Ibid., § xxvi, note.

These successive assertions seem to me a climax of folly. In Essay VI, reasons are given for rejecting them all. On careful investigation they appear nothing better than grave trivialities. I believe that the law of "similia similibus curantur" has no power nor influence whatever in these departments of nature. Several homœopathists have strongly remonstrated with me for excluding these things from the operation of this law, but the belief is still retained.

The result, then, of the examination of the manner in which Hahnemann teaches the principle of homœopathy, is this:—I think him in error in his explanation of it, in his definition of it, and in the extent to which he applies it.

4. Hahnemann's notion that "the medicinal disease, produced by the appropriate drug, must naturally be somewhat stronger than the malady to be cured, if it is to overpower and extinguish the latter," involves him in another doctrine which is also rejected;—that of medicinal aggravation as essential to cure. He expresses this doctrine thus:—

"A dose of an appropriate homœopathic medicine, not the very smallest possible, does *always, during the first hour after its ingestion, produce a perceptible homœopathic aggravation.*"[2] I have seen nothing to justify such a statement; and do not believe that it is founded upon careful or extensive observation. On the contrary, phenomena which can reasonably be called medicinal aggravation are, according to my experience, not common. This notion, therefore, is rejected.

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[1] Ibid.

[2] 'Organon,' § clx.

5. The doctrine of Hahnemann, that the sum of the symptoms is the sum of the disease is, at least, indistinctly announced, and very liable to be understood in a sense which is not true. If he meant to exclude pathology, or the morbid changes of structure from rendering aid in the choice of remedies, which the condemnatory language he uses with reference to that science would seem to indicate, and his method of arranging his provings confirms, it is entirely dissented from. I am "well aware of the nullity of transcendental speculations which can receive no confirmation from experience;" but I never read any author more addicted to transcendental speculations than Hahnemann himself. His writings are filled with what William Harvey would have called "phantoms of darkness."

6. Connected with the last subject is the dismemberment of the symptoms observed in the description of Hahnemann's "provings," or experiments with drugs upon the healthy body, which has already been alluded to. These provings are contained in two works, the 'Materia Medica Pura,' and the 'Chronic Diseases.' The symptoms are broken up and artificially arranged in this manner:—

"Head.
Face.
Eyes.
Ears.
Nose.
Jaws.
Mouth," &c., &c.

By this arrangement the real and distinctive features of each case of proving are so disfigured and concealed as to defy detection; and any attempt to connect the symptoms with the internal pathological condition of the prover is rendered hopelessly impossible. Were a physician to report a series of cases of fever, or of any other disease, with the symptoms dislocated in a similar manner, how absurd it would appear! It is quite clear that the reports of cases of provings must be given in the same manner as reports of natural disease; how otherwise can the two pictures be compared with each other?

7. The statements of Hahnemann relative to a supposed "primary and secondary action of medicinal substances," are too vague and doubtful to claim assent. He says, "most medicines have more than one action, the first a *direct* action, which gradually changes into the second, which I call the *indirect* secondary action. The latter is generally a state exactly the opposite of the former."[1] Afterwards he alters his expressions, and calls them "alternating" actions. At one time, he lays great stress upon this distinction, and declares that the primary action is the one which is homœopathic to a disease, while the secondary is only palliative, at other times, he loses sight of the distinction he has attempted to establish, and at last seems tacitly to abandon it altogether.

8. When announcing the efficacy of the small dose, Hahnemann falls into his usual error. He speaks of it as the "spiritual power which lies hid in the inner nature of medicines." Of the mechanical processes of rubbing and shaking, in the preparation of the medicines, he says, "such a mode of preparation develops *almost all* the properties that lie hid in the essential nature of the medicinal substance, which thereby alone can attain any activity." He calls the processes themselves "dynamizations;" the earlier divisions of the grain of medicine he calls lower, and the further subdivisions higher "potencies."

The hypothetical style of expression, uniformly indulged in by Hahnemann, is greatly disliked; and any faith in such pretended explanations of natural phenomena, is disclaimed. Such fanciful speculations are not true science, nor sound philosophy; they are not real knowledge; and they come with a bad grace from one who, on the adjoining page, sneers at "the prevailing school of medicine, which," he unjustly asserts, "affects to possess a supernatural insight into the inner nature of things."

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[1] 'Lesser Writings,' p. 312.

Sir Humphry Davy remarks of the *honest* professors of alchemy, that "they had discovered a *light* capable of guiding them in that dark night of ignorance, but they mistook their path. The *light*, however, was not extinguished, and it became subservient to the ends and the views of the chemical philosophers."[1] It seems to me that Hahnemann is precisely in the position of the speculative alchemists, such as Van Helmont and Helvetius; he discovered a *light*, but could not walk steadily in the path which it illumined. May this newer light subserve the ends of future physicians, as the older light has done that of the chemical philosophers!

9. Hahnemann has fallen into the same kind of exaggeration in the use of the small dose, as he has done in the application of the principle. He says:—

"The best dose of the properly selected remedy is always the very smallest one in one of the high dynamizations (the 30th), as well for chronic as for acute diseases."[1]

This is entirely rejected; experience abundantly testifying that the dose must vary. At present I think that the dose ought to be regulated by the susceptibility of the patient's constitution; by the nature of the disease; and by the character of the drug. The nervous system of some individuals is much more sensitive to the action of medicines than that of others; some diseases increase, and others diminish this susceptibility; and some drugs act best in comparatively large doses, and others in small ones.

10. In connection with the small dose, it may be

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[1] 'Works of Sir H. Davy,' vol. i, p. 145.

[2] 'Organon,' § ccxlvi, note.

remarked of the practice of *olfaction*, or allowing the patient only to smell the medicine, adopted and recommended by Hahnemann in his old age, that I have not tried it, and do not intend to do so, except with such substances as camphor, musk, or ammonia.

11. Hahnemann's doctrine of the "psoric" or itch origin of most chronic diseases. There is nothing against which Hahnemann exclaims more loudly than against pathological hypotheses. "Physicians," he says, "wished by *à priori* reasoning to find out an undiscoverable source of disease in regions of speculation which are not to be penetrated by terrestrial mortal. Our system-builders delighted in these metaphysical heights; where it was so easy to win territory; for in the boundless region of speculation every one becomes a ruler who can most effectually elevate himself beyond the domain of the senses."[1] He speaks of "the *maniacal* principles of Broussais;"[2] and condemns the attempts of other physicians to explain the nature and connections of disease as "castles in the air."

It is not a little remarkable, after perusing such effusions as these, to find Hahnemann adopt a speculative pathological hypothesis in no way superior to those he has so vehemently condemned. Observation, he says, "left me no doubt about the internal enemy which I had to combat in my medical treatment. This internal enemy I shall designate by the general term *psora*. It is an internal disease,—a sort of internal itch,—and may exist either with or without an eruption upon the skin." "I found that thousands of tedious ailments, which we find enumerated in our pathological works under distinct names, originate, with a few exceptions, in this widely ramified *psora*."[3] This "is the common mother of most chronic diseases," and it is to be treated by a peculiar class of remedies, which he calls "*antipsorics*." Thereby departing, as it seems to me, from the very basis of homœopathy; forsaking the principle of "similia similibus curantur," embarking in the old allopathic ship, and placing his remedies side by side with the *antispasmodics* of Cullen, one of his great rivals in medical speculation.

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[1] 'Lesser Writings,' p. 482.

[2] 'Organon,' Introduction.

[3] 'Chronic Diseases,' vol. i, p. 21.

It is asserted by one of Hahnemann's most indefatigable disciples that, "it is absurd for any one who professes to have a clear perception of homœopathy, to reject the doctrine of an hereditary morbific miasm (psora). Both these doctrines must stand or fall together."[1] Notwithstanding this assertion, I decline to adopt this psoric hypothesis. It cannot be verified as a fact, and the reasoning of Hahnemann respecting it is not satisfactory. That a case is one of *psora* is, he thinks, proved if it has been cured by one of the remedies which he calls *antipsoric;* and that a medicine belongs to his class of antipsorics, he considers proved, if it has cured a case he has called psoric. This is a mode of reasoning in a circle not characteristic of an enlightened or philosophic mind.

That *psora* is "a miasmatic chronic disease," to which belong nine-tenths of all chronic cases, is rejected as an unproved hypothesis.

12. The re-introduction of astrological considerations among the reasons for prescribing remedies for disease, is entirely repudiated. Some of Hahnemann's symptoms in the 'Provings' manifested themselves "at the new or full moon," and some "when the moon is waning." It has been said in apology, "as in Hahnemann's early days the moon was generally thought to be a very influential personage, he may be pardoned for connecting a new moon with certain symptoms he noticed to be simultaneous with her appearance." Perhaps we may be disposed to admit this apology, though the fact that he made such references detracts much from his credit as a careful and discriminating observer, and greatly diminishes our confidence in his inferences and conclusions. But it is high time that

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[1] Note by Hempel in 'Chronic Diseases,' vol. i, p. 2.

those who call themselves homœopathists in the present day should disavow such untenable notions; and as some of his disciples, so far from doing this, are even more given to them than Hahnemann, I must needs deliver myself from the imputation. "Give a dose of *sulphur* when the moon is on the decline;" says Jahr, "at the next full moon give a dose of *mercury*." "If the distress should return at new or full moon, *sulphur* should be given, either during the decline or increase of the moon," &c., &c.[1] Now I am "ready to adopt whatever is demonstrated, or concede whatever is rendered highly probable, however new and uncommon the points of view may be in which objects the most familiar may thereby become placed."[2] But I am as yet unacquainted with any reliable series of facts which demonstrates, or even renders probable, the lunar influences on the action of poisons in health, or of remedies in disease. These references to the supposed influence of the moon are therefore rejected.

13. While on the subject of other departments of science, a supposed connection between homœopathy and magnetism entertained by Hahnemann, and lately asserted to have been proved by a new philosophical instrument contrived by Mr. Rutter, of Brighton, may be noticed. I have not yet met with any evidence which renders a connection between homœopathy and magnetism probable, beyond the facts which go to show that a union or "correlation" exists between all physical forces, and *perhaps* between physical and vital forces. The movements of the instrument contrived by Mr. Rutter are simply mechanical. Some homœopathists contended that it was able to show physically the action of the infinitesimal doses by its movements. Dr. Quin gave lectures upon it to this effect, in London. I published a letter at the time, containing an account of some experiments which proved that this instrument

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[1] Jahr's 'Clinical Guide,' article "Worm Affections."

[2] Herschel's 'Treatise on Astronomy,' p. 2.

has no connection whatever with magnetic forces, and that it can prove nothing as to the action of the small doses.

14. The use of preparations of disgusting substances, such as products of disease, &c., which some homœopathists have attempted to introduce as remedies, are disliked and rejected. It is very true that such things have been greatly resorted to in old time, but their use is very much laid aside, and must not be again revived. The tendency of an improved system of medicine should be to get rid of the objectionable things which still cling to the old method.

15. Having just now spoken rather of the disciples than of the master, this opportunity may be taken to say that the mingling of medical facts and theories with the doctrines of revealed religion, is entirely condemned and protested against. I cannot sympathise with such writers as the Rev. Thomas Everest in this country, and Dr. Mure and others abroad. Mr. Everest says, in a published sermon, "When the old system (of medicine) shall have quite vanished from the earth, and the new one (homœopathy) shall be established, then, for the first time, will the gospel of the kingdom of grace be preached . . . . and received as God intended," &c.; with other sentiments still more objectionable.

I thankfully believe the Holy Scriptures to be the word of God, and nature to be His work; but the study of the one is to be kept distinct from the study of the other; and for the reason assigned long ago by Lord Bacon, "because of the extreme prejudice which both religion and philosophy have received, and may receive, by being commixed together; as that which undoubtedly will make an heretical religion, and an imaginary and fabulous philosophy."

16. To return to Hahnemann. The rancour and animosity which he exhibits towards his professional brethren are deeply regretted and repudiated; and the mean and vulgar language he condescends to adopt when speaking of them is greatly disliked. Not

more than a single specimen shall be given: "The old school dreamed of effecting causal cures by endeavouring to remove these imaginary and presumed material causes of disease. Hence their assiduous evacuation of the bile by vomiting; . . . their diligence in purging; . . . and more especially all their varieties of bloodlettings; . . . following the precepts of a well-known *bloodthirsty* Parisian physician [Broussais], as a flock of sheep follow the bell-wether, even into the butcher's slaughter-house."[1]

17. I am shocked and astonished at the effrontery with which Hahnemann announces his dogmatic assertions. Some examples of this are given in the Essay on the Difficulties of Homœopathy; I will add a few more; at the same time it is to be remarked that this disagreeable tone pervades the whole of his principal works; the 'Organon' more especially. Everything is "unerring," "infallible," "invariable," "unquestionable," "incontrovertible," and "not to be refuted by any experience in the world."[2] "*All* experiments and observations demonstrate in the most convincing manner that among medicines—that one alone which can produce in the healthy individual a similar morbid state, is capable of transforming a given case of disease, rapidly, gently, and permanently into health; *indeed, that such a medicine will never fail to cure the disease.*"[3] Again, "If physicians would but approach the cholera patient, in order to treat him at the commencement of his sickening with this medicine (camphor dissolved in alcohol), *which alone is efficacious*, and which most certainly destroys the miasm about the patient, by giving him, as I have taught, every five minutes one drop of it, if they would but do this, then *every patient would* not only *be infallibly restored within a couple of hours* (as the most undeniable facts and instances prove), but by the cure of the disease with pure camphor, they would at the same time *eradicate*

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[1] 'Organon,' pp. 11, 12.

[2] 'Organon,' *passim.*

[3] 'Lesser Writings of Hahnemann,' p. 811.

and annihilate the miasm."[1] The tone of Hahnemann's writings, and the style which he adopts, tend to associate him with the class of bold and ignorant empirics, rather than with that of able and conscientious physicians.

Every feature of Hahnemann's exposition of his system has, I think, now been noticed ; and there is not one which is to be admired or adopted, in the terms in which they are propounded by him. As expressed in his writings, they all, without exception, excite in the mind a strong repugnance. Every detail is presented in so distasteful a manner as to produce a feeling of absolute dislike; so that, had I read Hahnemann's works *before* making a practical trial of the method, I never should have been induced to begin it. They are filled with unproved assertions, illogical arguments, fanciful speculations, and obvious contradictions.

It is due to myself to have made these statements. Having adopted the practice of homœopathy, I may be supposed to be a disciple of Hahnemann, and be held responsible for his follies. Such relationship and responsibility are altogether disclaimed.

On the other hand, nothing has been met with in the writings of Hahnemann which would lead me to suspect him of dishonesty. Before the controversy respecting homœopathy commenced, he was acknowledged by his professional brethren to be a man of talent and reputation, and I think he is still entitled to this character ; I admire his untiring industry and perseverance, and believe his efforts on behalf of suffering humanity were sincere ; these efforts were requited with derision and ill-treatment, and it is not surprising, though it is much to be regretted, that he was driven to retaliate in kind.

II. I will now endeavour to recapitulate what the *practical trial* of homœopathy has led me to acknowledge and accept as true. The results of a personal, industrious, and honest investigation of the subject, having for its one object the discovery of truth for the benefit of the sick. And I earnestly entreat my medical brethren to lay aside the prejudices of their education, and their preconceived opinions, to follow my example, and to give such points as these a searching investigation and a fair trial in their own hands—

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[1] Ibid., p. 854.

1. *The Principle.*—I think these three propositions may be demonstrated as plain facts :—

That each drug selects certain portions or organs of the body upon which to produce its injurious action.

That the injurious action produced upon the parts or organs of the body thus selected, is more or less peculiar to each drug; that it is characteristic; so that by this action each drug may be known from the rest.

That drugs are to be given as the best remedies for the diseases which affect the same parts or organs of the body which such drugs affect; and specially when the symptoms manifested by the affected parts or organs resemble the symptoms produced by the drugs.

There does not appear to be any disposition on the part of the profession to deny the first and second of these propositions. They were tacitly admitted, without question or doubt, by a large number of eminent medical men, and equally eminent chemists, on the late trial of Palmer for the murder of Mr. Cook. On that trial one of the leading questions was a question of science; — were the symptoms which preceded the death of Mr. Cook the symptoms of strychnine? Now, unless the first and second of these three propositions were admitted as true, this question would have been a useless one. It was not thought useless, but was entertained, and answers given to it, by Sir Benjamin Brodie, Dr. Todd, Mr. Solby, Professors Brande, Christison, and Taylor, Mr. Herapath, Dr. Letheby, and many others. Some thought the symptoms were those of strychnine, and others thought they were not; but none denied that strychnine affects organs and produces symptoms peculiar to itself; and if this be true of strychnine, it can be true of it only because it is true of all drugs, that they select the organs of the body upon which they prefer to act, and also because they act upon those organs in a more or less peculiar and characteristic manner. It would seem, therefore, unnecessary to advance proofs of these two propositions.

Of the third proposition it is far otherwise. This is, as yet, almost universally denied, at least in part, for it is admitted that *drugs are remedies* for disease. The denial of the remainder of the proposition raises this question, for what disease is each drug to be given as a remedy? The medical profession have been labouring earnestly for many centuries to discover the answer to this question, and the best answer, in my judgment, and according to my own personal observation and experience, which has yet been found, is the answer given by the law of homœopathy, as expressed in this third proposition.

Some proofs of the truth of this proposition are given in Essays IV, V, and VI, on the Principle of Homœopathy. It is not my intention to add others in this place, as I hope to have another and a better opportunity of doing so. At present it is stated as a practical fact, of the truth and value of which any one may have daily experience. And medical men are again called upon to test it for themselves; to try it as a practical guide in the opportunities afforded them every day; and to accept it as a fact without wasting time in speculations as to its *modus operandi.*

2. *The Provings.* The method of learning the properties of drugs by *proving* them on healthy persons is entirely approved and heartily recommended. A practical acquaintance with this subject commends it to the mind, as the foundation of all real knowledge in therapeutics, and as the only method yet pointed out by which medicine can become a science. Nor are the objections to its adoption so formidable as they may at

first sight appear, while the advantages can scarcely be overrated.

The objects aimed at in proving any drug are contained in the first and second propositions of the preceding paragraph. They are to ascertain its sphere of action (first proposition), and the mode in which that action is manifested (second proposition); in other words, to learn what organs of the body are affected by it, and the manner in which the functions of those organs are deranged, or their structure altered. This may commonly be accomplished without pushing the experiment to any serious extent; while, with respect to a large number of important medicines, we learn the more formidable symptoms and alterations of structure they have the power to produce from the numerous cases of poisoning which either accidentally or intentionally occur.

The adoption of this method of discovering the properties of drugs is necessitated by the acknowledgment of the third proposition of the preceding paragraph,—the principle of homœopathy. Independently of that principle, it has strong claims upon the attention of physicians, but homœopathy cannot exist practically without it.

In the Essay on this subject, some of the provings of monkshood (*Aconitum Napellus*) are given. In the symptoms there detailed we have a perfect picture of synocha, cauma, or inflammatory fever. The commencement by a chill, sense of fatigue, loss of appetite, nausea; the chill increasing to shiverings, goose-skin, icy coldness. Then the second stage, heat, violent headache, burning in the eyes, roaring in the ears, quickened breathing, with cough, oppression of the chest, acute pain, and a full, strong frequent pulse. Then, after a few hours, the third stage, perspirations, followed by a remission, and this by the disappearance of all the symptoms. Such is the *proving* of aconite; such the picture produced by the drug, and which is a close resemblance or epitome of the cases called simple or inflammatory fever, which are met with so often in daily practice.

That aconite is an admirable remedy for simple and for inflammatory fever, has been abundantly experienced and testified to by homœopathists, but the witness adduced at present is my opponent, Dr. Routh. In the 'Journal of the Provincial Medical Association' for June 8, 1855, is a paper on the treatment of *pneumonia* by Dr. C. H. F. Routh. In this paper Dr. Routh says, "The pulse must be reduced in frequency. *The surest means to effect this is, I believe, aconite.*" "I seldom if ever bleed (in inflammation of the lungs); bleeding fails in 53 per cent. of pneumonia." "*Here* (*in aconite*) *is a remedy to be preferred to bloodletting, because, while it is equally powerful in its action, it has the advantage of sparing the patient's blood for the future contingencies of the disease.*"[1]

The following is a proving of another plant, the sumach or poison oak (*Rhus Toxicodendron*). Mrs. —— took the fifth part of a drop of the tincture of rhus tox. about seven o'clock in the morning; in about an hour a feeling of great depression, with shiverings, coldness of the hands and feet, to which she is not naturally prone, confusion of the head, and little appetite for breakfast. In three hours she felt so ill as to be obliged to go to bed, the symptoms being an indescribable feeling of depression, alternate heats and chills, aching pains in the back and limbs, dryness of the mouth and tongue, with disagreeable taste, entire loss of appetite, feeble pulse, temperature of the skin below the natural standard, though well covered in bed, cold clammy perspirations, secretion of the kidneys scanty and high coloured. This state of things continued on the following day, and to it was added considerable discharges of dark blood, which, along with the continuance of the typhoid symptoms, was repeated, but in less quantity, on the third and fourth days. On the fifth day all the symptoms disappeared.

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[1] Braithwaite's 'Retrospect,' vol. xxxii. pp. 96, 97.

This proving of rhus was an epitome of typhus fever.

I know no remedy so efficacious, in many cases of typhus and typhoid fevers, as this same rhus, given in the low dilutions.[1]

By such experiments as these, the two plants, monkshood and sumach, are shown to have characteristic relations with two opposite kinds of fever. The former both produces and cures the fever of excitement or exaltation; the latter causes and is a remedy for the fever of depression.

It must not be inferred from these remarks that these two plants have no other relations. By carrying the experimental provings further, new features are discovered in each of them, by which they are indicated as remedies for some other serious diseases.

This method of proving drugs in health may be extended to every article in the Materia Medica; and thus, perhaps, a counter-part may be found for every diseased condition to which the human body is liable. It has been already so extended, after the fashion of Hahnemann; it requires to be done again with more discrimination and judgment.

3. *The Single Medicine.*—The third point which a practical trial has led me to approve is the use of a single medicine at a time. Like the preceding subject—the proving of drugs upon the healthy—it has strong recommendations of its own, independently of its connection with the principle of homœopathy; but the adoption of this principle as a guide in the selection of the remedies to be given for disease, and the adoption of the method of provings, as the best way of learning the properties of drugs, render it imperative to prescribe each medicine by itself. The same preparation of the drug which has been taken by the prover to obtain the symptoms, should be given to the patient to remove similar symptoms. The dose alone should be varied.

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[1] *Baptisea* has been discovered since, as another valuable remedy for typhoid fever. (1874.)

An Essay is devoted to this subject to which my readers are referred. The advantages of the method are daily felt more strongly. Suppose a case to be well studied, and the remedy carefully selected ; at the next consultation disappointment is experienced on finding that the patient has derived no benefit from the remedy. It is clear either that something has been overlooked, some error in diagnosis has been committed, or that there is some idiosyncracy or peculiarity in the constitution or habits of the patient. If there has been a mistake in the diagnosis, a further and more sifting investigation of the case may correct this, and lead to the choice of a more appropriate remedy. If the other alternative has happened, and the patient's nervous system has not responded satisfactorily to the medicine, in the dose which has been given, the same remedy has to be repeated in a different dose.

Or, as happens more commonly, the remedy has succeeded, and the patient is better. How very much greater is the satisfaction felt on learning this result, when it can be traced to a known remedy used alone, than it was formerly, when a mixture of perhaps a dozen ingredients had been given, and when consequently it was impossible to say with precision to which the benefit was owing. This doubt attaches to every combination of drugs, whether of many or of few.

The force of truth in this matter has already produced a strong impression on the minds of the leading members of the profession. They are rapidly adopting this peculiarity of homœopathic practice. Already, also, many of the best remedies of the homœopathists have been extensively introduced into the prescriptions of allopathists. Several examples of both these statements have lately come under my own observation. Such circumstances prove that notwithstanding all the contempt of the new system which such individuals have professed to entertain, and notwithstanding all the ridicule they have expressed, and the indifference they have pretended, at the increasing popularity of the unwelcome novelty, it has so commended itself to their judgment and their conscience, that they have been constrained to adopt, or to approach towards the adoption of many of its remedies and some of its peculiarities. In the present attitude of the profession towards homœopathy, these things are done with an ill grace, and in the eyes of observing and intelligent lookers on are highly discreditable to men of education, and quite unworthy of their known respectability.

It is acknowledged that the difficulties in the way of respectable practitioners, if they contemplate embracing homœopathy, in its present aspect, are almost insurmountable; but it is hoped that by this investigation these difficulties have been very much diminished. Physicians will learn from it that they are not required to commit themselves to what they may unavoidably dislike about Hahnemann; that they are not called upon to pledge themselves to any hypotheses, or to any speculations whatever; that what is required of them is a reasonable service, namely, to open their eyes to see, and their mouths to acknowledge what is true and useful as a matter of fact.

The difficulties in the way of embracing homœopathy thus simplified, and freed from a dress which has rendered it so repulsive to the English mind, are not great. Such an adoption of it would be an easy way to escape from the false position in which many physicians must be sensible they are at present placed; a way by which they may again honestly perform their duties as members of an honourable profession; a way by which they may put themselves right with their countrymen, satisfy the demands of science and of truth, and deliver themselves from the reproaches of a dissatisfied and uneasy conscience.

4. *The Small Dose.*—I adopt the small dose. Nothing else has been used for five years. This is the part of homœopathic practice which brings upon those who embrace it ridicule and contempt; but we are not to be ashamed to avow anything which we

conscientiously believe to be true. Prove to us that we are mistaken, and we will gladly retract the error.

'The Athenæum' takes high ground in its literary and scientific pretensions, the attempt, therefore, which has been made by that journal to convince me of my folly, requires to be noticed, but, as will be learned from the remarks upon the effort, it has failed of success. Indeed, I am persuaded that others will be convinced, though not the writer of the criticism, that he is more in error than the individual he has undertaken to condemn, and that the subject is one which calls for his re-consideration before he again pronounces so dogmatically upon it.

In a review of the 'Tracts on Homœopathy,' the writer observes :—

" The foundation of all inductive science is the law that effects are increased with the increase of their causes, decreased by the decrease of their causes, and changed with the change of their causes. Unless causes and effects answer to these laws, they are not regarded as such by sane people. In the face of these fundamental truths, homœopathy says effects are increased by the decrease of their causes, and decreased by the increase of their causes,—and, therefore, asserts a folly which it is not worth the while of a man in his senses to look into. Moreover, we may add, the man that is inclined to investigate this folly already betrays unsoundness of mind, and we would warn him against experimentation on the subject, which will be almost sure to end in his adopting the delusion. We feel ashamed to see so intelligent a man as Dr. Sharp the victim of so weak a delusion as the evidence of cure in homœopathy. Does he not see that an equally imposing array of figures and facts could be brought forward in favour of charms and amulets, the king's touch, the magnets of Mesmer, and the pills of Morison and Holloway? No amount of fine writing can explain away this fact, nor get him out of the unscientific position in which he has placed himself."[1]

I cannot avoid remarking, in the first place, the disingenuousness of this writer. In the *first* Essay it is stated that "Homœopathy is not an infinitesimal dose," and this statement is frequently repeated. Stress is laid upon the principle, the provings, and the single medicine, as the parts of homœopathy which are to be first investigated, and most earnestly contended for; and though the small dose has been used in my own practice, and has answered, it is remarked that "Homœopathy, as a principle, was discovered by experiments made with *appreciable doses*, and a man may be a true homœopathist though he never prescribe any other."[2] The reviewer, therefore, in ignoring these main features of homœopathy, and assailing only the small dose, betrays the *malus animus* of a prejudiced mind. Nothing short of such prejudice could deliver any one up to be content to make use of the inconclusive arguments advanced in this article of the 'Athenæum.' We will, however, examine them.

The whole of the evidence in proof of the action of the small dose is thought to be disposed of by a knock-down blow. "Effects are increased with the increase of their causes, decreased by the decrease of their causes," and so forth. I grant the truth of this proposition as readily as the writer in the 'Athenæum' does. What then? So do two and two make four; and the inability of small quantities of triturated drugs to act upon the living nervous system of man may as reasonably be inferred from the latter proposition as from the former. There never was a weaker sophism; there never was a conclusion more illogically drawn from any premises. I think this can be shown very plainly to all whose eyes are not shut by prejudice.

Let it be remarked that homœopathy does *not* say that "effects are increased by the decrease of their causes, and decreased by the increase of their causes;" what is said on this subject, (for homœopathy, as I have stated in Essay I, "says nothing about the dose,") is this:—by diminishing the mechanical adhesion of a drug, or by dividing it into exceedingly minute particles, a very small quantity, so divided, is capable of acting on the vital principle with sufficient energy to cure diseases, even in respect to substances which, *when not so divided, but retaining the mechanical cohesion of their particles*, have little or no effect. This is asserted simply as a matter of fact; the proof being daily observation of its truth. The witnesses who testify to the truth of this fact are the medical men who observe it.

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[1] Extracted from the 'Athenæum' of December 30th, 1854.

[2] Essay I, page 10.

It shall now be shown from unexceptionable sources, that the opponents of homœopathy practise, in type or embryo, the same thing, and teach and believe the same truth. My authority for the practice shall be the 'Pharmacopœia' of the royal college of physicians, and for the teaching and believing, the 'Pharmacologia' of the present president of that college.

In the 'Pharmacopœia' of the royal college of physicians of London, we find the following prescription:—

> "Take of Mercury, two drachms,
> Confection of Red Rose, three drachms,
> Liquorice, powdered, a drachm;

"Rub the mercury with the confection until globules can no longer be seen; then, the liquorice being added, beat the whole together until incorporated."[1] Other colleges give similar prescriptions.

It is well known that mercury, in its ordinary state as quicksilver, has no effect upon the human body beyond what is due to its gravity. In mercury, therefore, we have the type of the inert drugs used by homœopathists; and in this process of the trituration of mercury we have the type of the trituration of all other drugs.

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[1] Pharm. Lond.,' article "Pil. Hydr.," Phillips's Translation.

Thus then the type or embryo of the whole practice of homœopathists, as regards the mode of preparing their remedies, is to be found in the Pharmacopœia of the royal college of physicians. The elementary fact, the germ of the whole discovery, has laid dormant many years in the Pharmacopœias of the colleges, and the writer of the article in the 'Athenæum' might, with as much justice, condemn himself as insane, for prescribing or for taking two or three grains of blue-pill, because a large quantity of mercury would have no action on his liver, as adjudge others to be thus insane for prescribing or taking small doses of other inert substances, which have been rendered active by an exactly similar process of trituration. If the axiom proposed by the critic,—"effects are decreased with the decrease of their causes,"—be applicable to the condemnation of the practice of homœopathists, it is equally applicable to the condemnation of the practice of all the physicians of the civilised world.

So much for the practice; now let us examine the teaching and belief of physicians on this subject, and from a source equally unexceptionable. The president of the royal college of physicians of London delivers himself thus :—

"The doses of medicinal substances are specific with respect to each, and can therefore be only learnt from experience. The young and eager practitioner, however, is too often betrayed into *the error of supposing that the powers of a remedy always increase in an equal ratio with its dose.*"

Dr. Paris goes on to say, and the italics are his, not mine, "*Substances perfectly inert and useless in one dose, may prove in another*, [meaning a smaller one], *active and valuable.* Hence may be explained the great efficacy of many mineral waters, whilst the ingredients which impart activity to them are found comparatively inert," when they are given in large quantities.

Again on the mode of preparation by triturating in a mortar, Dr. Paris say, "I think it may be laid down as a general rule, that *extreme pulverization assists the operation of all substances whose active principles are not easily soluble.*"[1]

Thus the teaching is in accordance with the practice, and by the sentence of the 'Athenæum,' I go to an asylum in good company; having under one arm as many Pharmacopœias as I can carry, and leaning with the other on that of the President of the royal college of physicians.

There are, I think, only two remarks which can be made in opposition to the reasoning here pursued. It may be said that by triturating mercury a chemical change takes place, and an oxide of mercury is produced, which is the active ingredient in blue-pill. The answer is ready :—"The mercury in this preparation," says Mr. Phillips, the translator of the 'Pharmacopœia Londinensis,' and the best pharmaceutical chemist of our day, "the mercury in this preparation is probably *in the state of minute division only.*"[2] I well remember how Mr. Phillips dwelt upon this in his Lectures, and how he assured us he had taken every pains to detect an oxide in blue-pill without success. But suppose it to be so, and that some chemical change has taken place during trituration; what this process effects for one substance it may effect for others, they also may undergo chemical changes, while being pulverized, as well as mercury. Nevertheless, the question is not one belonging to the science of chemistry, but to therapeutics; it is not about chemical changes, but whether, when substances have been minutely divided by trituration and solution, they are capable of acting as remedies in disease? I submit to the 'Athenæum' that this question is not answered by his proposition, and that it can be answered only by experiment. I have made the experiment, and believe that they are so capable of acting.

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[1] Paris's 'Pharmacologia,' pp. 152-3, 161, 4th edit.

[2] 'Translation of the P. L.,' article "Pil. Hydrarg."

The second remark which may be made is this:—the practice of the Pharmacopœia, and the teaching of the Pharmacologia, are not applicable to such very minute quantities of the drugs as are contained in the small doses of the homœopathists. By what authority is this said? The practice and the teaching apply so far as the college and its president have experience; their small doses act so far as they have tried them; they are not qualified to pronounce beyond their experience; others have tried the small doses further; they find that these doses act, and their experience must needs overbalance the mere opinion without experience of any number of their colleagues.

The plain truth upon this point is, that with respect to the action of material agents upon the living body of man, medical men are not in possession of sufficient knowledge to enable them to judge of what is greater or less, or in what way such agents increase or decrease in their power of action. We are not able to say beforehand whether a grain of any substance, or the tenth part of it, shall act most powerfully; the experiment must be tried before the answer can be given. The proposition laid down by the reviewer is therefore altogether irrelevant and inapplicable to the matter in hand. It leaves the evidence of observation unimpeached, and the insanity of the witness unproved.

The writer goes on to say that "an equally imposing array of figures and facts could be brought forward in favour of charms and amulets," &c., &c. I think not, and am persuaded that he could not prove this assertion to be true; but suppose its truth were admitted, we have yet to learn how that admission would prove that we are in error on a question which has no connection whatever with charms and amulets, or with the royal touch, or with the pills of Holloway or Morison.

Look at the logic of this reasoning:—an imposing array of facts and figures can be brought forward in favour of the efficacy of charms and amulets, acting through the imagination of their patients; *therefore*, what medical men, accustomed to the observation of disease and the effects of remedies, have seen in their own practice, of the action of small material quantities of drugs, not acting through the imagination of the patient, is a delusion.

Again, an imposing array of figures and facts can be brought forward in favour of the pills of Holloway and Morison; *therefore*, the results observed by physicians, with very small quantities of the same drugs, is a weak delusion. By this mode of argument anything may be proved. It may be proved that modern chemists are deluded because the alchemists who preceded them were enthusiasts; that Faraday is in error because "Elias the artist" was a rogue.

This is the best reasoning which has yet appeared against the efficacy of the small dose, which efficacy is attested as a fact by every one who has been willing to observe it. Certain other parties are presumed to have been mistaken about certain other things; *therefore*, medical men who testify what they have seen, and which their opponents will not take opportunities of seeing, are in a weak delusion!

Such is the miserable refuge of the opponents of homœopathy! Does it not excite feelings of indignation to see men, who have been told by their colleagues an observed fact, and have been requested to observe it themselves, hide themselves under such flimsy subterfuges as these, under pretence of argument and science?

The truth upon this second point is this:—Many erroneous notions on the cure of diseases have prevailed among mankind; which fact proves that great caution is needed to avoid being misled into other errors on the same subject, but which proves nothing more; least of all does it prove that observations made with a full consciousness of this liability to be deceived, and therefore made with every reasonable precaution against deception,—least of all does it prove that such observations are erroneous.

The ludicrous timidity,—the cowardice exhibited in the warning given "against experimentation on the subject, which will be almost sure to end in adopting the delusion," might be noticed, had not more attention to this writer than his observations deserve been already given.

It shall now be shown how the small dose, thus theoretically opposed, is practically adopted; which will again bring into notice the lack of candour and honesty exhibited by the opponents of homœopathy.

It has already been remarked that many of the most valuable homœopathic remedies have been adopted without acknowledgment, and the recommendation of aconite in inflammatory fever by Dr. Routh has been adduced as an example. We know that Dr. Routh has studied homœopathy, and has visited Dr. Fleischman's hospital at Vienna. He must therefore be well acquainted with the fact that aconite is in daily use among homœopathists; yet in the paper quoted from, he does not own this fact, but implies that he has obtained his knowledge of aconite from "a work of Dr. Fleming's."

Dr. Routh goes on to say, "Unfortunately, aconite is feared and avoided in England, as an internal therapeutic agent, because believed to be most uncertain in its effects; and *this opinion is justified if we employ the ordinary tincture of the London Pharmacopœia;* but it is a prejudice to apply it to the tincture of the alcoholic extract of the root of the aconitum napellus." "The tincture I use contains one grain of the alcoholic extract of the root to twenty drops of alcohol; and the dose for an adult varies from half a drop to three minims. I have given up to five drops, but in this case poisonous symptoms supervened. . . . . I therefore use it with great care, especially with children. Thus, if one or two drops be added to eight ounces of water, although only half an ounce be the quantity given for a dose, *i. e.* from one thirty-second to one sixteenth of a drop, [from the 640th to the 320th part of a grain of the extract,] and repeated every two hours, an effect is usually manifested on the feverish excitement in a very few hours."[1]

Here we have a physician well acquainted with the details of homœopathy, and the daily practice of homœopathists with reference to aconite, its mode of preparation, and its dose, advancing all these,—the drug—the new mode of preparation (slighting the Pharmacopœia of the royal college of physicians),—and the small dose up to the 640th of a grain, as novelties of his own! The only item of homœopathic practice not adopted is the use of the fresh juice of the plant with which to make the tincture. When this purer preparation is made use of, it will be found that a still smaller dose will be sufficient. It is to be hoped that educated men of respectability and character will no longer pursue such a suicidal course as this, but that they will take courage to act as honest men;—*honesty is the best policy.*

To conclude; my earnest appeal to my professional celleagues is, that they will investigate the principle, adopt the method of proving, prescribe the single medicine, and try the small dose; which last I have used exclusively during five years, and which I shall continue to use, without wishing to bind either myself or others, on no occasion to depart from its use.

5. *The Pharmacy.*—The method of preparing drugs for medicinal use. I think the method proposed by Hahnemann better than those followed in the pharmacopœias of the college of physicians. In the place of the decoctions, infusions, extracts, mixtures, tinctures, pills, powders, syrups, &c., &c., it is proposed to adopt a single and uniform preparation. Minerals and other dry substances being prepared by pounding or triturating a small quantity with some non-medicinal substance, as sugar of milk, and by subdividing this by repeating the triturations with fresh portions of sugar the required number of times; and vegetable juices by mixing them with pure alcohol, and dividing these

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[1] Braithwaite's 'Retrospect,' vol. xxxii, p. 97.

tinctures by mixing small portions of them with fresh quantities of alcohol, as often as required. This method is explained in detail in Essay II. The preparations are kept either as powders or tinctures, or small pellets or pilules of sugar of milk are saturated with the tinctures, and kept in that state. The medicine in this last form has these advantages,—it does not evaporate, it is less liable to be injured by light, and it can be administered, especially to children, with little trouble.[1]

The new mode of preparing drugs for use as medicines is, therefore, adopted.

III. It shall now be stated what those parts of the usual method of treating diseases are, the abandonment of which is involved in the adoption of homœopathy.

1. All modes of abstracting blood from a patient. The lancet, the leech, and the cupping-glass are laid aside. So far as my experience has yet gone, they are never required. It is true this has been to me much less of a change than it would be to many practitioners. As a student I was taught that nearly all acute diseases might be benefited by loss of blood; at that time, as Dr. Adams has remarked, "venesection in fever, and in almost every disease, was the established order of the day."[2] As years rolled on in practice, observation taught me that this mode of proceeding was often fraught with mischief, and the lancet had been laid aside before I had heard of homœopathy. Leeches were still applied. With the remedies to which the principle of homœopathy directs, no wish is felt even for a leech. On the contrary, great satisfaction is experienced at the quick recovery, avoidance of debility, and shortening of convalescence, experienced by adopt-

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[1] We are much indebted to the leading homœopathic chemists of England for the pains they have taken with their preparations of the drugs, which are admirable, and may be relied upon with confidence.

[2] Adams's 'Translation of Hippocrates,' vol. i, p. 307.

ing these remedies and abstaining from all abstraction of blood.

2. The blister, the moxa, the issue, the seton, and all means of producing inflammation, vesication, suppuration, or mortification of the sound and healthy skin are abandoned. The rule of homœopathy, to let well alone, not to meddle with healthy parts so as to make them ill, necessarily leads us to avoid all such applications as these. It can be truly said these things are never wished for now, and I am persuaded that my patients never suffer for the want of them. They are more quickly and more effectually relieved by remedies directed to the diseased organ, and they are spared all the pain which the use of such means unavoidably occasions.

3. All mixing and compounding of drugs is discontinued. The mischievous "luxuriancy of composition" complained of by Cullen is abandoned. This practice has been, for centuries, one of the stoutest barriers against improvement, one of the greatest difficulties in the advancement of knowledge, so that no regret need follow it to its burial. The adoption of a single medicine opens the door of instruction to the physician, and is a great gain to the patient.

4. All poisonous doses of drugs. We shall never learn the amount of mischief done, by even the most careful and observing amongst us, with the large doses we have been accustomed to give. Not to mention the sudden deaths which annually occur from the mistakes of druggists and compounders of medicines, the effect of over-dosing in all our hands has, I fear, often been disastrous.

It will be said, in reply to this, if we have formerly injured our patients by excess of physic, we shall by adopting the small dose of homœopathists, allow unchecked disease to injure them still more. On the ground of sufficient observation this is denied, it is not true. The doses used by homœopathists may always be such as will check disease *as far as drugs can check it.*

5. The multiform preparations of the pharmacopœia. The infusions, decoctions, extracts, &c., &c., by which the active principles of many drugs are more or less injured or destroyed. The loss of all this variety need not be regretted. It is a Pandora's box, better shut up.

6. The things hitherto noticed are external and visible, open to the cognisance of patients, indeed, which cannot be concealed from them, and which have led them to take great interest in the medical reformation. There is a greater change, which the adoption of the new method produces, of an internal character, and which belongs to the operations of the mind. It lies in the mode of thought and reasoning pursued by the physician at the bedside of the sick.

On being consulted by a patient the physician investigates the symptoms, and aims at a true diagnosis; he has been accustomed then to ask himself what are the indications, and what remedies he has seen answer those indications best, in other similar cases; or, if he is young and inexperienced, to ask himself what eminent practitioners have taught him, orally or in their writings, to do for such a case; and he prescribes according to this experience or teaching. The question he is rerequired to ask himself now is this,—what drug, when taken in health, acts upon the organs he sees affected in this case, and produces similar symptoms? The answer to the question indicates the remedy to be used. This is a real and a great change; one which astonishes and perplexes the mind; a true *bouleversement;* and which time only can render natural and easy. It is described in the Essay on the single medicine. It is so great that I think no medical man can carry on the two modes of reasoning successfully at the same time.

IV.—Lastly, it shall be pointed out what those parts of the usual method are which still remain available and useful, and are retained.

1. The preliminary study of anatomy and physiology

remains, of course, as important as ever. A medical man cannot be too accurately acquainted with the structure and functions of the different organs of the body. The more minute his knowledge on these subjects is, the better.

2. Morbid anatomy and pathology are made more valuable, because more useful to the new, than they were to the old methods. The morbid changes produced by poisons on the one hand, and by diseases on the other, are to be carefully compared; and thus an interest is thrown into this painful study which could not attach to it before.

3. Toxicology, hitherto studied only for the discovery of antidotes, and for the requirements of medico-legal investigations, is advanced into a science of the first importance. Cases of poisoning are studied with deep interest, because they are required to complete the picture, obtained by voluntary provings, of the characteristic properties of all drugs intended to be used as remedies in disease.

4. The operations of surgery and midwifery remain unaffected, except in so far as they are frequently rendered unnecessary by the success of internal treatment. It may be remarked here that the small dose of secale cornutum has, I think, all the beneficial effect sought for from large quantities of that drug, while its injurious action on the infant seems to be avoided.

5. Any advantages which may be derived from the collateral sciences, such as botany, chemistry, &c., remain as they were. It is highly proper that all medical students should be well instructed in them.

6. Diagnosis. The value of a correct knowledge of the nature of the case, of the actual condition of the patient, cannot be estimated too highly. All preliminary studies should be subservient to these two ends—to qualify the physician to detect disease, and to enable him to prescribe for it in the best possible manner. If diagnosis was important before, under the old régime, it is doubly so under the new. I cannot find words to express the value which a physician should set upon

the knowledge of disease, nor the pains he should take to increase that knowledge.

7. Diet. Much has been said, on both sides, upon the subject of diet. Homœopathists have laid so much stress upon it, as almost to justify their opponents in saying that all the cures are brought about by diet; and one or two individuals have carried their restrictions in regard to the allowance of food so far in some cases as almost to have caused the death of their patients.

For my own part, scarcely any change has been made in the advice given on this subject. It has always seemed to me that the nature of the case, not the kind of medicine to be given, should determine the appropriate supplies of food. With the exception of excluding articles which may operate as antidotes to the medicine, the same diet has been advised under the new treatment which I was accustomed to advise under the old.

8. Everything relative to the hygienic and moral treatment of invalids remains unaltered. Suitable clothing, exercise, sleep, sea-air, sponging, bathing, travelling, are as available as before. It need scarcely be added that every aid which cheerful and affectionate friends can render, and every consolation which religion can minister, are as acceptable, and may be as beneficial, as they have ever been.

ESSAY XIV.

THE MATERIA MEDICA.

"HE giveth medicine to heal their sickness."
PSALM cxlvii.

ESSAY XIV.[1]

THE MATERIA MEDICA.

"It is best, as has been often said and demonstrated, to determine the powers of each medicine by exact experiment, for by this you cannot be deceived." AETIUS.

Food and medicines are the gift of God. "He gives food to all," and "He gives medicine to heal their sickness." He has also given us bodily senses and powers of mind; and He expects us to exercise our senses and our reason in regard to His other gifts; so that these may be used and not abused.

As respects medicines these powers of observation and thought have not, hitherto, been well employed.

The articles of the Materia Medica, as they have been accumulating for centuries, are grotesque and countless. They may be called, as the baggage of the Roman army was, *impedimenta*. The student who wishes to become acquainted with them is bewildered by their incongruity, and his progress is impeded by their multitude. The useful articles are like corn before it is winnowed, buried in chaff. The precious ones are like diamonds hidden in their native sand.

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[1] First published in 1861. Extracted, with additions, from 'A Letter to Sir B. C. Brodie, Bart., P. R. S.,' in reply to his Letter in 'Fraser's Magazine' for September, 1861.

It is not the design of this Essay to unpack the baggage, to winnow the corn, or even to pick out the diamonds. Its purpose is much more modest. It will be confined to some reflections on the Materia Medica of Hahnemann, and to the suggestion of what appears to be an improvement.

Medicines are the chief means by which physicians attempt to restore the sick to health. They are the instruments by which the sacred harp of man's body is to be brought back to harmony, when this has been disturbed by disease. This use gives medicines themselves a degree of sacredness which they would not otherwise possess.

Their virtues have been sought after, up to our time, by experiments on the sick.

We are now encouraged by the example of Hahnemann to learn these virtues by experiments on the healthy.

It may be expected that the arrangement of the articles of which the Materia Medica consists, and the manner in which their properties are described, on this new method, will differ from the arrangements and descriptions of former teachers.

With respect to the arrangement of the articles, however, Hahnemann has not departed from the plan generally followed by writers on the Materia Medica before him. He has arranged them alphabetically; if, indeed, this can be called any arrangement at all.

But with respect to the description of their properties, he has signally departed from all former precedents. In paragraph six of the last Essay his manner of giving the results of experiments in health has been briefly mentioned. Its importance demands a fuller examination.

In his preface to the 'Materia Medica Pura' Hahnemann says :—

"In my Organon of the healing art, I teach the principle that diseases can only be cured by remedies which produce analogous *symptoms* upon the healthy organism, and I moreover assert and prove, that every system of therapeutics, in order to become a safe guide in the treatment of disease, ought to exclude all empty assertions and conjectures, as regards the supposed virtues of medicines, and ought to furnish *a correct description of the symptoms* by which remedial agents manifest their action upon the healthy organism.

"The symptoms of those remedies which have been studied with more care, have been arranged in a certain order. This facilitates the finding of the desired symptom. Among similar symptoms of different remedies, some ought to have been pointed out as parallel passages. My time did not permit me to attend to this.

"The symptoms have been arranged in the following order :—

Vertigo.
Obnubilation.
Defects of the mind.
Defects of the memory.
Headache, internal, external.
Forehead, Hair.
Face.
Eyes and Sight.
Ears, Hearing (articulation of the jaw)."[1]
&c., &c., &c.

Hahnemann's arrangement is thus seen to be one of *symptoms* merely, without an attempt to trace or indicate any connection between them; indeed, it renders the discovery of such connections impossible. Its use can scarcely be other than a mechanical enumeration of the symptoms of the patient, and a comparison of them with those of drugs.

If diseases were described in this manner, no one could recognise them.

Dr. Dudgeon, in one of his Lectures, gives us a witty simile :—

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[1] Hahnemann's 'Materia Medica Pura' by Hempel, vol. i, p. 8.

"The Hahnemannic schema is as unnatural and artificial an arrangement of the features of many allied morbid portraits as though an artist should paint a family group, arranging all the eyes of all the members of the family in one part of the picture, all the noses in another, the ears all together, the mouths all together, and so on. From such a picture, correct though each feature might be, it would be a difficult matter for us to build up each separate portrait, and it is equally difficult for us to ascertain the various morbid portraits from the *tableaux* Hahnemann has presented us with in his Materia Medica."[1]

Dr. Drysdale had previously made the following remarks :—

"The same method must be followed in observing and describing the effects of medicines as in observing and describing natural diseases. . . . . Take the example of any disease arising from a morbid poison —a specific cause acting from without, and therefore quite analogous to the effects of medicines. Let anyone take a case of such disease and write out the symptoms carefully, but instead of doing so in their natural order and connection in the form of a narrative, let him arrange them in the form of the ordinary *schema*, or register of symptoms in which our medicines are usually arranged, and then show it to another person well versed in the diagnosis of the disease. It is almost certain that the latter will fail to recognise it, and will view it with somewhat of the curiosity one would display towards a Chinese puzzle, to which we have not the key."[2]

Hahnemann's Materia Medica is a huge curiosity shop, in which are ingeniously displayed upon their respective pedestals and tripods, all imaginable signs and sensations, whether tragic or comic; and in which all are doing their best to attract the notice of those who are willing to inspect them.

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[1] Dr. Dudgeon's 'Lectures,' p. 233. 1854.

[2] 'The Hahnemann Materia Medica,' Part 1, Introduction, p. 1, by J. J. Drysdale, M. D. 1852.

And yet this method, eccentric and even absurd as it appears, has not been, in a practical sense, without great merit. This is proved by the fact that, up to this time, homœopathists have worked out their success by its use, in spite of its eccentricities; and have won a large amount of respect, both for themselves and their system, by its help, in spite of its absurdities.

Moreover, Hahnemann's example has been followed by almost every new prover since his time; and a large number of 'Clinical Guides' and 'Repertories' have been prepared with intolerable labour, to facilitate the use of this singular arrangement, and to bring this bewildering catalogue of scattered members into comprehensible limits.

Nevertheless, Hahnemann's scheme must be looked upon as a temporary and transitional arrangement, and not as a finished or abiding basis of therapeutics; and researches must be undertaken in different directions, to find a better and more lasting foundation.

A great effort towards the discovery of this truer foundation was made in 1852, by Drs. Drysdale, Dudgeon, and Black. This effort was a step in advance, and in the right direction. Whereas Hahnemann's arrangement was one of separate and individual symptoms, theirs is one of "groups" of symptoms. In the new plan, all the symptoms in a proving which have a manifest connection with each other, are put together. So that while Hahnemann's numbers simply count the symptoms, the numbers in this scheme count the groups.[1]

By this method it becomes possible to form a notion of the pathological condition from which the symptoms arise; by Hahnemann's method this was not possible.

Is it impossible to advance any further? It is acknowledged that the Materia Medica arranged upon Hahnemann's scheme is already overwhelming in the multiplicity of its details, and extends far outside the limits of any memory. And will not this be true of the "group" method, if carried out to the same extent? Assuredly it will. This picture, as well as Dr. Dudgeon's, will resemble the family group of the Vicar of Wakefield, of which we are told that when finished it "was so very large that there was no place in the house to fix it;" so that it "leaned in a most mortifying manner against the kitchen wall, where the canvass was stretched and painted, much too large to be got through any of the doors, and the jest of all our neighbours." It seems imperative, therefore, to go in search of some other plan which, even when completed, will be confined within manageable limits.

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[1] 'The Hahnemann Materia Medica,' Part I. 1852.

A suggestion is adventured upon.

Let it be premised, however, and be clearly understood that, in the first instance, provings should be recorded in the same manner as cases of disease have always been described. Some volumes of simple descriptions of the effects of drugs in health, showing, without note or comment, their connection and succession, would be a treasure house for study and reference; then—

The suggestion is this—that an endeavour should be made to arrange these effects *anatomically;* that is, to refer, as far as is possible, each symptom to its seat, to the organ or part of the body in which it originates and to which it belongs.

When this has been done, it will be possible to arrange the articles of the Materia Medica themselves under the several organs of the body on which they have either a primary or subordinate action.

This will surely facilitate their use, and help to secure their application to the diseases of the same parts of the body. And we cannot have too vividly impressed upon our minds that the first element of success in prescribing a remedy is this, that it has the power of acting where the disease exists.

The following is given as a specimen of the suggestion now made; or as an illustration of the manner in which it is thought that a useful and moderately-sized *compendium* of the Materia Medica may be constructed. It does not pretend to be perfect: in the present state of our knowledge it cannot be. Indeed, having quoted the 'Vicar of Wakefield' already, the best preface which can be put before this undertaking is the first sentence of Goldsmith's advertisement:—

"There are a hundred faults in this thing; and a hundred things might be said to prove them beauties; but it is needless."

THE METALS.

More than forty metals are now known to chemists; with some of these little has yet been done beyond discovering a few of their chemical relations; with many we are familiarly acquainted as drugs. It has been ascertained that each of these has its own sphere of action in the living body. The details proving this are so numerous and unequivocal that it is impossible to avoid the inference that it will be found to be true of the rest, as our knowledge of them extends.

It is also now fully established that each metal, when minutely divided by trituration, possesses active powers, so that the remark often made in works on Toxicology, that such and such metals are inert in their metallic state, can no longer be received as true.

Further, it is certain that the various compounds of each metal with other bodies, possess their own distinguishing characteristics, while these different preparations of the same metal bear a family likeness. These minuter shades of difference are not at present meddled with; the properties named under each metal are those best known, whether they belong to the substance in its metallic state, or to its compounds.

In the description now given of the action of each metal, for the most part only what is best established, is admitted; so that there is much room left for additional observations, and, doubtless also for many corrections.

GOLD—as a poison.

Professor Christison, quoting from Orfila, writes thus of gold :—"Its poisonous properties are powerful, and closely allied to those of the chlorides of tin and nitrate of silver. In the state of chloride it occasions death in three or four minutes when injected into the veins even in very minute doses; and the lungs are found after death so turgid as to sink in water. But if it be swallowed corrosion takes place, the salt is so rapidly decomposed that none is taken up by the absorbents, and death ensues simply from the local injury." "Even doses so small as the tenth of a grain have been known to produce an unpleasant degree of irritation of the stomach." (Majendie.) This is the chloride. "In the state of fulminating gold this metal has given rise to alarming poisoning in former times, when it was used medicinally." "It excites griping, diarrhœa, vomiting, convulsions, fainting, salivation; and sometimes has proved fatal." (Plenck.) "Hoffman likewise repeatedly saw it prove fatal, and the most remarkable symptoms were vomiting, great anxiety, and fainting. In one of his cases the dose (which caused death) was only six grains."[1]

Metallic gold was pulverized or triturated by the Arabians. Several modern physicians have experimented with it, thus reduced to minute subdivisions, upon themselves, taking, in divided doses, one or two grains. The result of these experiments shows that gold acts upon—

1. The *mind* and the *brain;* producing in the former great melancholy and depression of spirits, in the latter congestion, and affecting also the eyes.

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[1] Professor Christison on 'Poisons,' page 493. Fourth Edition. 1845.

2. The *chest;* causing dyspnœa, expectoration of viscid phlegm (like kali bichromas), palpitation of the heart, congestion of the lungs.

3. The *digestive organs;* fetid odour from the mouth, putrid smell, putrid taste, salivation, nausea, flatulence, vomiting, constipation at first, afterwards diarrhœa, with burning in the rectum.

The *bones* generally, particularly the nasal, palatine, and facial bones; giving rise to inflammation, exostosis, and caries.

It is thus seen that gold has a penetrating or deep-seated action; commencing in the brain, and affecting very specially the mind, passing through the chest and abdomen, and, finally, concentrating its energies on the bones in general, and particularly on those of the face.

GOLD—as a remedy.

Gold was much used as a medicine some centuries ago. It was thought to promote the production of animal heat, to strengthen the heart, to restore the blood, to expel noxious humours, and, particularly, to exhilarate depressed spirits. For some time gold has been abandoned as a medicinal drug, it is now beginning to be employed again.

Triturated gold has been prescribed by me with success in the following, among other, cases:—

1. A case of extreme melancholy and despondency; the patient was in a most distressing state; after various other remedies had failed, the first trituration, (one hundredth of a grain), was prescribed; he wrote after this, "I felt better at once."

2. A case of ozæna of long standing; the ulcer in the nose was discharging a fetid purulent matter, accompanied with caries of the bones, and the constitution greatly deranged; the boy was permanently cured.

3. A child in a hopeless state of disease; one feature was a severe ophthalmia with ulcers on the cornea in both eyes, which had resisted the prolonged and varied use of many excellent remedies; the poor child was emaciated and exhausted with suffering and fretfulness; and the mother was almost as bad from nursing, anxiety, and want of rest. The quantity taken was a minute fraction of a grain, in divided doses. The little patient was restored, by God's blessing, to perfect health.

4. A case of exostosis of the tibia, just below the knee, a boy; the first trituration was given with benefit; I believe a cure was effected, but, as often happens when that is the result, the patient's friends did not think it worth while to convey this intelligence directly to me.

Gold is an antidote to mercury; it relieves the neuralgic pains and other mischievous effects of that metal, especially when the bones have been injured by it. And *vice versâ* mercury is an antidote to gold.

The organs selected by gold upon which to produce its effects are distinct, and its action profound; and whether it be given in health or in disease, as a poison or as a remedy, the organs upon which it acts are, in both cases, the same.

SILVER—as a poison.

Silver in a state of minute division, that is, after trituration, acts both as a poison and as a remedy. Its best known compound is the nitrate, which is universally used by surgeons as a caustic application to ulcers. The nitrate of silver possesses the singular recommendation for this purpose, that when applied in substance it acts with difficulty beyond the part which it touches; the reason of this is that on coming in contact with animal matter chemical changes take place both in the nitrate and in the animal tissue to such an extent that the salt is immediately decomposed, and the part which has been touched instantly loses its vitality. When given internally in small doses nitrate of silver is absorbed. "It is not easy," says Professor Christison, "to account otherwise for the singular blueness of the skin sometimes observed after the protracted use of lunar caustic as a remedy for epilepsy and other diseases." The same authority states that in one instance of poisoning with this drug "the whole internal organs were more or less blue." Metallic silver, from the decomposition of the nitrate, has been found in the choroid plexus of the brain, in the pancreas, the liver, and the spleen, and in the urine.

The *post-mortem* appearances are a *blue* colour of the organs, softening of the mucous membranes, and ulceration.

Metallic silver has been found to act upon :—

1. The *joints;* causing severe pain and lameness. The action of silver upon the articulations is said to be very uniformly the same, and very certain.
2. The *muscles*, *tendons*, and *ligaments* in the neighbourhood of joints.
3. The *cartilages;* particularly those of the ears, nose, Eustachian tube, and false ribs.
4. The *bones;* especially the long bones.
5. The *glands;* as the salivary glands, the testes.
6. The *heart;* probably as a muscle.
7. The *brain* and *nerves;* slightly, producing giddiness and stupefaction, and spasmodic jerkings, like electric shocks, in different parts of the body.
8. The *kidneys* and the *uterus;* slightly.[1]

The prominent symptoms of an overdose of the nitrate of silver are :—

Nausea and inclination to vomit (this is sometimes relieved immediately by hearty eating), heart-burn, water-brash, and pain in the stomach; intermission in the heart's action; catarrh; in one very severe case, after an ounce of nitrate of silver in solution had been taken "the individual was found insensible, with the eyes turned up, the pupils dilated, the jaws locked, and the arms and face agitated with convulsions." (Christison.) Common salt was given as a chemical antidote, and the patient recovered after vomiting a large quantity of chloride of silver.

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[1] For the action of silver I have ventured to rely a good deal upon Jahr, who is indebted to Huber.

Dr. Huber, who has experimented upon himself to a great extent with silver, thinks that a principal effect of silver is to produce congestion and increased sensibility of the nerves; this argues a direct action upon the blood vessels and nervous system.

Silver causes a less profound alteration in the condition of the body than is produced by gold.

SILVER—as a remedy.

Silver, as well as gold, was much used in medicine a few centuries ago. Its powers are thus described in the debased Latin of that period; "Capitis corroborans perhibetur specificum, spiritusque animales confortare, unde et omnibus capitis affectibus peculiaris efficaciæ censetur, quales imprimis epilepsia, apoplexia, et similes."

The nitrate of silver is still extensively used in epilepsy, but with very partial success. Pereira indeed says it "occasionally, perhaps more frequently than any other remedy, proved successful." But epilepsy has, hitherto, been seldom cured. There is little in the action of silver on the healthy brain to recommend it as a remedy for epilepsy, though it is not without action on that organ, and may be adapted to some cases. It is thought that silver is best suited to epilepsy arising from moral causes. Other drugs are much more efficacious in curing epilepsy than silver, such as belladonna, opium, and, in minute doses, the chloride of sodium.

Metallic silver has been found useful in diseases ;—

1. Of the joints; as in rheumatism, coxalgia, and in some affections of the elbow and knee. A very long-lasting and severe case of coxalgia in a young woman, and another nearly similar affection of the knee, have been cured by it in my hands.
2. Of the muscles; particularly of the psoas muscle, and in spasm of the heart.
3. Of the bones, cartilages, and synovial membranes; of a congestive or inflammatory character.
4. In chorea.

Nitrate of silver is much used for certain gastric diseases, as gastralgia, and for ulceration of the mucous membrane of the bowels. It is closely connected with these ailments, as may be learned from the *post-mortem* appearances. I have frequently found it very beneficial in such cases.

COPPER—as a poison.

Copper, when reduced to minute division by trituration, acts in its metallic state. The compounds of copper best known are the sulphate, or blue vitriol; the acetate, or artificial verdigris; the carbonate, or natural verdigris; and the hydrated peroxide, or mineral green. These and other preparations of copper are used as pigments in the arts; the two first mentioned are often employed in medicine and surgery.

Copper acts upon—

1. The *organs of generation.* (Taylor.)
2. The *liver;* producing jaundice.
3. The *alimentary canal;* causing nausea, vomiting colic pains, purging, and sometimes salivation. The evacuations are *green.*
4. The *muscles;* throwing them into violent cramps.

5. The *heart;* the action of the heart becomes feeble and the pulse small.

6. The *brain* and *nerves;* epilepsy, palsy, insensibility, are produced.

7. The *skin;* pimples and scaly patches.

8. The *respiratory organs;* spasmodic cough.

Copper acts in whatever manner it is introduced into the body. It is found after death in the blood, in the liver, spleen, heart, kidneys, and lungs; particularly in the liver. It imparts a *green* colour to many internal organs; the skin is yellow; other appearances are those which usually accompany similar disease from other causes. Copper may prove fatal by external application alone.

COPPER—as a remedy.

"Præterquam quod partes generationes peculiariter confortare creditur. Majoribus ac precipuè Hippocrati frequentissimo in usu fuit." Such has been the opinion of the virtue of copper for upwards of two thousand years. Hahnemann omits almost entirely its action upon these organs.[1] I am quite sure, from my own observation, that copper acts powerfully as a remedy in diseases of the organs of generation, and particularly in obstinate menorrhagia. In the following case the red or *sub-oxide* of copper, (perhaps not before used in medicine,) was successful:—

1. Menorrhagia. Case. Mrs. —, the mother of several children, who has resided some years in India, is now in a state of extreme debility; scarcely able to walk from one room to another; face very pale; lips livid; pulse feeble and small; an anæmic state arising from excessive catamenia. A very patent os uteri with jagged edges. The sub-oxide of copper, tritu-

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[1] Hahnemann's 'Chronic Diseases,' by Hempel; vol. III, art. '*Cuprum.*'

rated, and given in doses of the hundredth part of a grain twice a day for some months, moderated the catamenia, and restored this lady to a comfortable state of health.

2. Jaundice. Copper has been useful in one or two cases of jaundice.

3. Cholera. In severe cases of vomiting, purging, and cramp of the muscles; and in Asiatic cholera, with rice-water evacuations, loss of voice, cessation of pulse at the wrist, cold tongue, and such cramps as had produced large bruises in the legs, thighs, and abdomen, a condition apparently moribund, I have seen the acetate of copper, in doses of the hundredth part of a grain in solution, alternated with veratrum album, in similar doses, subdue every symptom in a few hours; the violent cramp yielding specially to the copper. This experience is simply a confirmation of that of all who have used these remedies in cholera.

4. Spasm of muscles, or cramp seems to be more effectually relieved by copper, than by any other remedy; except when it arises directly from irritation of the spinal cord, when nux vomica is better.

5. Paralysis. Case. Numbness and pain in the right arm and hand; the limb "going to sleep;" and the thumb becoming stiff; the attack coming on suddenly at uncertain intervals for *many years;* without manifest cause or connection with any other ailment. The nerves both of sensation and motion were primarily affected in this case; the muscles secondarily. Metallic copper was the first remedy tried, and it effected an immediate and permanent cure.

6. Copper is also a remedy for some cases of epilepsy, chorea, spasmodic cough, and for some cutaneous affections; all which corresponds with the observations made on its action as a poison. Nothing, in fact, can be clearer than that there is a connection between the physiological action of copper as a poison, and its curative action as a remedy. *Jaundice* is an affection which, according to Christison, distinguishes

copper as a poison, from arsenic and corrosive sublimate. Silver dyes the organs blue; copper dyes them green.

IRON—as a poison.

Metallic iron is now used in medicine, after having been minutely divided by trituration with an inert powder. In this form it acts powerfully upon the living body. The compounds of iron best known are the oxides, chlorides, carbonates, sulphates, and iodides.

Iron being contained in sensible quantities in the blood, a supply of it must be required for this purpose; this is afforded by our ordinary food, which contains iron in small portions. Iron is thus one of the links between food and drugs. The supply of it in the food may sometimes be insufficient, and may be artificially increased by its being given as a medicine.

When iron is taken in quantities beyond this requirement of nature, or in a form not adapted to the purpose, it acts as an injurious or poisonous substance upon—

1. The *nutritive function;* producing a degeneration of the blood, and a condition of the body called *anæmic*. The symptoms are great paleness of the face, lips, and surface of the body, or sallowness of the skin; loss of appetite; sense of oppression after taking small quantities of food; gripings; black fetid evacuations; perspirations; swelling of the feet; and general weakness and emaciation. Also hæmorrhages from the various orifices of the body, are effects of iron.
2. The *uterine function;* greatly facilitating conception. This fact I have repeatedly verified.
3. The *stomach* and *bowels;* disagreeable eructations; nausea; sense of oppression and tightness of the stomach; vomiting of *inky black* matter; colic; diarrhœa, with *black* evacuations. These affections of the alimentary canal may be produced without the anæmic state before described.

4. The *kidneys* and *bladder ;* urine high coloured; strangury.

5. The *lungs ;* loud breathing as in sleep; cough; hæmoptysis.

6. The *muscles ;* cramp, and contraction of the limbs.

7. The *brain ;* severe headache; throbbing; giddiness.

Post-mortem appearances; a more or less diseased state of the alimentary canal, which is found of a reddish brown, or intensely *black* colour, or lined with a thick layer of jet-black mucus; the spleen, liver, and kidneys similarly stained *black ;* congestion of the brain.

IRON—as a remedy.

Two hundred years ago, this metal was frequently employed as a remedy. In our own time it has been asserted that "metallic iron exerts no action on the living system." This is now ascertained to be an error, and iron, minutely divided, is again coming into use in medicine. I have prescribed it with success for some years. The oxides, and the salts of iron are administered daily.

Iron is given—

1. As the principal remedy for chlorosis, and other anæmic conditions. These conditions of the blood and nutritive function correspond exactly with those which iron itself produces.

2. For diseases of the uterus, and its appendages.

3. For diseases of the digestive organs, dyspepsia, diarrhœa; and for the debility arising from these derangements.

4. For affections of the kidneys and bladder; particularly for strangury.

5. In some cases of hæmorrhage from the lungs

I have found iron succeed better than any other remedy.

The connection between the effects of iron as a poison, and the employment of it as a remedy, is so obvious that no special evidence is needed to prove it.

LEAD—as a poison.

Lead, when reduced to minute division, acts powerfully in its metallic state. Its principal preparations are the acetate, or sugar of lead, the oxides, iodides, and sulphurets. Galena, the common ore, is the native sulphuret.

Lead acts upon—

1. The *gums;* a *blue* line along the edge of the gums is a visible and characteristic effect of lead, and a constant premonitory symptom of the lead colic.

2. The *bowels;* producing a peculiar and characteristic colic, to which it gives its name, colica plumbea, or painters' colic. Constipation is also a primary and very characteristic effect of lead; this constipation is sometimes extreme. Very large doses of the salts of lead will occasionally produce something like inflammation; but there is so little tendency in the direction of inflammation in the natural action of lead, that when a case of this kind occurs, it is marked by the rare peculiarity of a pulse falling to forty or even to thirty pulsations in a minute; so much does the case differ from inflammation produced by other metals.

It is well known that arsenic selects the stomach, small intestines, and rectum, passing by the colon; lead selects the colon and leaves untouched the other portions of the alimentary canal. Again, the action of arsenic is on the mucous coat of the stomach and bowels, while that of lead is on the muscular coat, the mucous membrane being left unaffected.

3. The *muscles;* paralysis of the muscles is a well-defined peculiarity of lead. The palsy is not general, as in apoplexy; nor of half the body, as in hemiplegia and paraplegia; but partial, as of the muscles of the forearm, thumb, or fingers; it is generally preceded by numbness and trembling, and accompanied by wasting of the muscles; there is a liability to a sudden dropping of the arm. The action of lead upon the muscular system is the opposite of that of copper, and of some other metals, which produce spasms or excessive contractive efforts.

4. The *lungs;* hæmoptysis sometimes occurs in lead poisoning, accompanied with slight cough and dyspnœa; as in some of the following cases.

In July, 1856, I was consulted by a religious house consisting of about forty persons. Nearly all were suffering from loss of appetite, impaired digestion, constipation, emaciation, and palpitation of the heart on slight exertion; and several had, in addition, tightness of the chest on taking a deep inspiration, and hæmoptysis. These symptoms had gradually appeared and spread among the community for during nearly two years. The extensive prevalence of such serious affections led me to suspect, and to search for, some common cause. Lead was found in the water. Of course the leaden cistern and pipes which supplied the buildings were removed, and other materials were substituted; and during the following year all these ailments vanished. (And have not returned. 1874.)

5. The *brain;* after severe attacks of colic, apoplexy and sudden death in a state of coma, sometimes happen.

LEAD—as a remedy.

Of lead it is said in the old books, "refrigerat, adstringit, incrassat;" in modern ones it is called an astringent and sedative. The acetate is used to repress bleeding from the lungs, and from the bowels;

and externally as a lotion for inflamed eyes, &c. According to the teaching of the new system, it must be used with reference to the physiological effects just described.

1. The bowels; I have found lead remarkably useful in *many* cases of chronic constipation from torpor of the bowels. The preparation prescribed is the triturated metal. A case of monomania was cured by lead in conjunction with gold. The indications for lead were—most obstinate constipation, depraved appetite, weakened digestion, and excessive emaciation. The aberration of mind was on the subject of food, she thought it sinful to eat. On my first visit, in December, 1853, this lady sat alone, could not see any member of her family, and was in great distress. She took occasional doses of gold and lead in trituration, for two months. On my second visit to the house, (in Liverpool,) for the purpose of seeing another patient, in April, 1854, she was so well that, though elderly, there was not a more active person in the house. This restoration to health continued uninterrupted for more than a year.

2. The muscles; paralysis; I have found metallic lead equal to the task of removing partial paralysis in some cases. The first in which it was tried was paralysis of the thumb of the right hand, which had existed for some time, and the use of the thumb was entirely lost. When lead had been taken in minute doses for three months, the paralysis had disappeared, and the patient, besides being greatly improved in her general health, was able to sew. Lead has since been as useful in other cases.

TIN—as a poison.

Metallic tin, the oxide, the protochloride, and the perchloride, are the forms of this metal best known. The two latter are extensively used in the arts, in dyeing, and in the manufacture of colours; the oxide is used in staining glass. The chlorides are highly poisonous and produce acute symptoms from inflammation of the stomach. They cause a peculiar tanning of the mucous membrane. The pure metal, and its oxide have been supposed to be inert, or nearly so, except that the metal has been much given for the expulsion of tænia, and as a general vermifuge. More careful experiments show that tin acts upon :—

1. The *lungs;* producing great oppression and dyspnœa, pain; cough; copious expectoration, more or less purulent in its character; with corresponding febrile symptoms. The respiratory organs are those most prominently affected by this metal.

2. The *digestive organs;* in these, pain; pressure; nausea; vomiting; hæmatemesis; incarceration of flatulence; constipation, or diarrhœa; the whole alimentary canal is more or less affected, without any decided selection of portions of it, as by arsenic and lead.

3. The *brain* and *nerves;* vertigo; headache; nervousness; the spirits are a bow unstrung, or over-stretched; convulsive attacks; the disposition desponding or irritable.

4. The *liver:* functional derangement.

5. The *organs of generation;* excitement, and mucous discharges.

TIN—as a remedy.

Formerly, tin was believed to act mainly upon the liver and uterus; and it was given as a remedy for diseases of these organs. Later, it came into extensive use as a vermifuge. Now, experiments upon healthy persons have led to the discovery of its action upon the lungs and bronchial tubes. This last is, in fact, its primary seat of action, though the belief in its other powers was not without foundation, as is seen in the experiments just referred to. I have given tin in—

1. Diseases of the chest; characterised by copious discharges of mucus, or muco-purulent matter, with considerable benefit, even when there was extensive disease of the lungs, with the discharge of softened tubercles; and when the secretions were from the bronchial membrane, without disease of the pulmonary tissue, the result has been complete recovery. In catarrhus senilis tin has also been very useful.

2. In some affections of the alimentary canal with mucous discharges.

MERCURY—as a poison.

The last of the seven metals known to the ancients is mercury; afterwards known to the alchemists as *liquor mineralis*. Both in its metallic state, and in its chemical combinations, it is a highly interesting and important substance. The oxides, chlorides, sulphurets, and iodides, and the salts of mercury, are well known bodies, both in the arts and in medicine; some of them have been used as drugs for a long period, and to an enormous extent.

Among the preparations of mercury for use in medicine, none has been in greater demand than the triturated metal, in the form of *grey powder*, and *blue pill*. The effect of trituration upon the pure metals, that is, of rubbing them in a mortar with an inert powder, until divided into exceedingly minute particles, has, therefore, been witnessed, in the example of mercury for a long time. When mercury is swallowed in large quantities as quicksilver, it has little or no effect beyond what may be attributed to its specific gravity. When a grain or two have been finely divided by trituration, the metal then possesses great physiological power, and acts in its own manner upon nearly all the important organs of the body. Eminent chemists believe that the triturating process simply divides, and does not alter the chemical condition of the metal. There is no reason why this mode of minutely dividing the particles of mercury may not be applied to most of the other metals; and now that this has been attempted, it is found that their power also of acting upon the living body is, by this means, greatly increased.

Mercury produces its characteristic effects, in whatever way it is introduced into the body. It acts upon—

1. The *salivary glands*, *mouth*, *throat*, and *bones of the jaw* and *face;* stimulating to increased secretion, inflaming, and destroying the soft parts by ulceration and sloughing, and the osseous ones by caries and necrosis. I have seen the lower jaw entirely destroyed by *blue-pill.*
2. The *alimentary canal*, *liver*, *spleen*, *kidneys*, and *mesentery;* these and others organs of the body are, every day, irritated, inflamed, enlarged, and thrown into a variety of morbid conditions, by the abuse of this drug.
3. The *lungs* and *air passages;* these are inflamed.
4. The *organs of generation;*
5. The *bones;*
6. The *skin;* the effects of mercury upon the three last-mentioned portions of the body, are very similar, if not identical with those produced by the syphilitic contagion.

The bichloride, or corrosive sublimate inflames and ulcerates the mucous membrane of the stomach and bowels, and produces a condition and symptoms identical with *dysentery.*

MERCURY—as a remedy.

Three hundred years ago it was written of mercury, "Internè mundificat sanguinem ab inquinamento, precipuè venereo." It is well known that mercury has been almost universally used in such diseases ever since. The remarks made in the preceding section give the reason why it has been found efficacious in curing them; and, as yet, no better remedy has been found. The great evil which, from the introduction of mercury into medicine until now, has attended its use, has been the administration of excessive quantities. Large doses unavoidably produce the morbid effects of the drug, in addition to, if not to the prevention of the curative action. Medical men have not yet been penetrated with the conviction that they ought to regulate the doses of drugs, so as to get the good effects without the evil ones; that the dose ought to be sufficient to act as a remedy, but not enough to become a poison.

In giving mercury this great mistake has always been committed; and to such an extent that, after it had been in use a hundred years, Sydenham denied that it could with propriety be called a *specific*. Peruvian bark, he said, is a specific because it "dispels the disease (ague), without any sensible evacuation." On this very ground it was objected to, for it was contended that "as there is something which ought to be expelled, and which is not expelled, such a something must needs remain in the system—imprisoned, as it were, by bark, and liable to create fresh troubles; so that the patient is not free from the disease, but still drags his chain." Sydenham replies to these objections by showing from experience that bark does often cure ague, and yet acts neither by smothering anything, nor as an obstruction, nor as an astringent; but in an insensible manner, and, therefore, he pronounces bark to be a true specific.

But of mercury he says, "There is no specific by which lues has been cured, unless evacuation have preceded. *Mercury* is no specific, nor yet are the so-called *drying woods*. Before they can be considered such, cases must be brought of a lues being cured by either, without salivation on one side, or diaphoresis on the other."[1]

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[1] 'Sydenham's Works," volume II, pages 11 and 37.

For nearly two hundred years longer these excessive doses of mercury have been continued; so that Sydenham's remark might have been repeated until now. So lately as during the last generation, in the London hospitals, basins were placed at the bed-side of the patients, and they were bid to take mercury until these basins were filled daily with saliva.

After all this unhappy overdosing with mercury, which has been prolonged through three centuries, it is at length discovered that the curative effects it is capable of producing, may be obtained without any of the mischief which has, thus far, accompanied them, and even without any sensible evacuation whatever. This proves that mercury is a true specific according to Sydenham's definition. I can testify to the truth of this observation, having seen it effect cures in this manner.

Mercury acts as a remedy also in—

1. Affections of the salivary glands; gums; lining membrane of the mouth and throat; and in diseases of the facial bones. It is a specific in mumps. Ulcerations in the mouth and throat are cured every day by mercury; so are also many cases of toothache, face-ache, and painful affections of the bones of the face.

2. The alimentary canal, liver, spleen, kidneys, and mesentery. In a variety of diseases of these organs mercury acts beneficially. The injuries done daily by mercury in such cases arise altogether from the excessive doses given.

3. Affections of the serous, as well as of the mucous membranes, are often healed by mercury, given in small quantities.

4. Some diseases of the bones and periosteum yield to mercury.

5. Some eruptions on the skin are also benefited. Though diseases of the skin, according to my experience, baffle treatment more than any other.

TITANIUM—as a poison.

Titanium was discovered by Gregor in 1791; but we are indebted to Wollaston's experiments in 1822, for a better acquaintance with it. This rare metal is obtained chiefly from the bottom of the large smelting furnaces in iron works. Several years ago, when one of these furnaces at the Low Moor Iron Works, in Yorkshire, which had been burning without intermission for many years, was blown out for the purpose of undergoing repairs, Mr. Wickham sent me a considerable lump of titanium. The metal was in beautiful cubic crystals, a good deal resembling copper, but of a deeper red, and having a brilliant metallic lustre. Some of these crystals were triturated by the late Mr. Turner, of Manchester, but with difficulty, on account of their extreme hardness, and I experimented with this trituration upon myself in 1856. The proportion was one grain to ninety-nine of sugar of milk. I am not aware of any other proving.

From these experiments it appears that titanium has a powerful action upon the human body. After taking the preparation described in doses of two grains, twice a day for a week, I became greatly disordered, and felt and looked wretchedly ill. The details, or diary of such experiments belong to the volumes of provings which have been spoken of before. The summary belongs to this Compendium. The action of titanium is upon—

1. The *stomach;* bringing on nausea, loss of appetite, and feeling of discomfort.
2. The *brain* and *nerves;* giddiness, imperfect vision, the peculiarity being that only *half an object* could be seen at once; the division was *vertical* (that caused by gold is *horizontal*); and a desire to keep the eyelids closed.
3. The *blood;* and through this a perceptible derangement of the system.

TITANIUM—as a remedy.

The usefulness of titanium seems limited to a few cases; but I have found it a most valuable remedy for certain cases for which no good remedy was known before. They are cases of degeneration of the blood. A time will come when, with a more refined chemistry, our knowledge of the constitution of the circulating fluid which is the life of man's body, and the changes it undergoes in disease, will be better understood than they are at present. We can now speak of the morbid conditions of the blood only in a crude and general manner. We know that the blood is altered from its healthy state in typhus, in chlorosis, in jaundice, in cholera, in inflammatory fever, and in some other diseases; and we can describe, in an imperfect manner, some of these changes; but there remains an inexhaustible field of research in this department of physiology and pathology. The morbid condition of the blood, which may be called the titanium condition, will be understood with some degree of accuracy by a careful study of the following case, which was the first in which it was given as a remedy.

1. Blood disease. Mr. C. F—, a middle-aged and formerly stout and healthy man, had an attack of typhus fever, seven years ago. He recovered imperfectly, and has not been well since. During the last five years he has gradually but steadily become worse. He vomits a great deal, but not food; the matter rejected is a sour watery phlegm; he has diarrhœa, the stools consisting of a yellow, frothy, slimy matter; the secretion of the kidneys is high coloured and thick (in some other cases it has been albuminous); he spits blood, and sometimes has hæmorrhage from the bowels; he has pain in the region of the liver and kidneys, and also in the lower bowels, with much cramp; the eyes are slightly jaundiced; there has been great loss of strength and flesh, and of

two stones (twenty-eight pounds) in weight. The tongue is not much furred, and the pulse is 80. This gentleman tells me he has had a great deal of medical advice, but has derived no benefit either from medicines, or from careful diet, or from change of air, having during the five years paid three long visits at the seaside and also one on the Welsh mountains. This account was given me on the 28th of April, 1858. Half a grain of the first trituration (one grain in a hundred), three times a day for a week was prescribed, being moved to this by the vivid recollection his narrative produced in my mind of the condition I was falling into while proving titanium nearly two years before. At the end of the week he wrote to me that he was "altogether a different man;" and without any repetition of the remedy, and without the use of any other means, in a very short time he regained perfect health. He continued well a year. In the spring of 1859, he made himself ill by hunting too much, and some of the former symptoms showed themselves again, but they were immediately removed by the same remedy. He has continued generally well since.

The remainder of the metals, so far as they have been introduced into medicine, and a large number of plants, have been treated in the same manner; but sufficient is now given as an example of the plan.[1]

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[1] This endeavour to ascertain the localities of the action of drugs was made with considerable diligence about fourteen years ago. Nearly all drugs which, up to that time, had been experimented with or proved in health, were included in the enquiry. The first conclusion arrived at was that *all* drugs act locally or on particular parts of the body, in preference to other parts.

The second, that this local action ought to constitute the basis of their use as remedies.

The third, that the majority of these drugs will require to be proved again in order to learn with precision the organs on which they act, and whether in a primary or in a subordinate manner. So that the *Compendium* of these actions which can be given at present is only tentative, and probably often erroneous.

The fourth, that a similar enquiry must *afterwards* be made as to the *kind* of action of each drug upon the organs or parts where its action takes place. And that new provings will be required for this branch of the investigation also.

The fifth, that the settlement of *doses* must be postponed till these stages of the journey have been travelled over; when it will become not only necessary but practicable to undertake this settlement; and that then success may be reasonably expected.

It will be seen by the careful reader of the subsequent Essays, that all these subjects come successively into view, and that those which to some extent are mixed together in the specimen of the Compendium here given, are separated from each other, and investigated with more precision by themselves: particularly will this be noticed with respect to the *seat* and the *kind* of action of drugs. The *dose* has its share of attention at the close. There is wisdom in trying to do one thing at a time. (1874).

ESSAY XV.

MEDICAL SYSTEMS.

"It cannot be denied, that with respect to the universe of things, we in this mortal state are like men educated in Plato's cave, looking on shadows with our backs turned to the light. But though our light be dim, and our situation bad, yet if the best use be made of both, perhaps something may be seen."

BISHOP BERKELEY'S 'SIRIS.'

ESSAY XV.[1]

MEDICAL SYSTEMS.

"If the object of the student is to learn only what has been *said* on a subject, the pursuit of knowledge is an easy task; but if his object is to learn what is *true* on a subject the pursuit of knowledge is the task of a life."

DR. ROBERT GOOCH.

OUR life is so short, and filled up with so many duties; we are surrounded by so many objects worthy of our pursuit, and soliciting our attention; and the art of medicine is so copious and difficult, that it is not possible for any man, by his own unaided efforts, to labour in the many departments of this art, so as to clear up the doubts, and overcome the difficulties, and to settle the principles of each.

We must therefore gladly avail ourselves of the results of the labour of those who have lived before us. We are not indeed to follow any one's teaching with an admiration bordering upon idolatry, or a routine which may be charged with indolence, but to profit by the discoveries of all with a grateful heart. We are not to adopt the conclusions of our predecessors with a thoughtless haste; but to accept them if, after patient and intelligent enquiry, they seem to be true, or at least to have truth in them. We are then, with humility and labour, to endeavour to add to the truth already discovered, or to remove the errors which still cling to it.

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[1] First published in 1865; being the Presidential Address given in that year, at the first Meeting of a Medical Society at Birmingham.

It is in this manner that we have learned from Hippocrates, from Harvey, and from Sydenham ; and it is thus that we must learn from Hahnemann.

Having tried to labour in this spirit, I think myself happy to be called upon, on the present occasion, to offer a few remarks upon the subject which has drawn us together. And, as no claim is laid to infallibility, I trust that what is said will be received with the courtesy with which I desire to present it.

Time need not be occupied by a repetition of Hahnemann's own explanations of the principle to which he has given the name of homœopathy, and the motto "similia similibus curantur." We take the work upon which he bestowed so much care and pains, the "Organon of Medicine," with an occasional reference to his lesser writings, as the exposition of his views upon which he himself wishes us to rely.

It will be remembered by some of you that, thirteen years ago, in 1852, I endeavoured to show that this principle needs to be confined within much narrower limits than those to which Hahnemann extended it. It was remarked then that—

> "From a careful study of the 'Organon' and other writings of Hahnemann, we learn that he viewed the law of 'similia similibus curantur' as applying, first, to the power which one disease exerts over another ; secondly, to the influence of mental emotions ; thirdly, to the action of the so-called imponderable agents, light, heat, electricity, and magnetism ; and fourthly, to the operation of drugs.[1]

To the Essay from which this sentence is an extract I beg to refer you for proofs which have met with no refutation that I am aware of, and which show, I think, conclusively, that the principle called homœopathy has no application to any of these four classes of subjects, except the last; and that, in fact, it must be strictly confined to the action of what are called *drugs*.

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[1] Essay VI., p. 131.

In the 13th Essay, published in 1856,[1] and in the Reply to Sir Benjamin Brodie in 1861, an advance is attempted in the expression of the principle. It is well known to you that in the "Organon" the knowledge of disease is limited to the observation of symptoms, to the exclusion of pathology, or the internal organs, and their condition in connection with the symptoms. "For the physician," Hahnemann says, "the disease consists only in the totality of its symptoms." In like manner, in all his provings of drugs, symptoms alone are noted.

In Hahnemann's lesser writings, one, on the "Value of Medical Systems," is devoted to the condemnation in the strongest terms of pathology, and on many other occasions he advocates the observation of symptoms only.

Suffer me to remark upon this that Hippocrates was, perhaps, the greatest observer of symptoms the world has seen. Nothing has surpassed his description of the approach of death in the "Hippocratic face." It might be thought, therefore, that Hahnemann was returning to Hippocrates, and that in advocating the limitation of observation to symptoms, he has the Father of Medicine for his pattern and approver.

If, however, we look at this matter more justly, we shall see that Hippocrates was constrained by the force of circumstances to this limitation, and by no means by choice or judgment. In his time morbid anatomy could not be cultivated; the superstition and prejudice of his fellow men forbade it. He made the best of his bondage, but that he felt it to be bondage appears from the story of his visit to Democritus, at the request of the inhabitants of Abdera, who feared their great man had become insane. Hippocrates found Democritus dissecting an animal to discover the seat of the bile, and pronounced him the wisest man in Abdera.

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[1] Essay XIII. p. 345.

In our times there is no such prohibition, and morbid anatomy may be, and has been, diligently cultivated. To follow Hahnemann in his rejection of this is to ignore the labour of centuries, and voluntarily to place ourselves in the bondage of the ancients. It is manifest to any one who observes and thinks on the events of our time, that to bring about a general acquiescence in this backward step would be impossible.

I believe the rejection of pathology by Hahnemann has been one of the main hindrances to the reception, by the medical profession, of his homœopathy; and it will, I think, remain an insuperable obstacle. Knowledge is increasing in our time, and apparently will not retrograde. The unwearied labour bestowed upon morbid anatomy, a labour in itself disagreeable and painful, cannot be forgotten, and its results must be embraced by any system of medicine, any method of therapeutics, of which a reasonable hope can be entertained that it will be generally adopted.

In the publications just referred to it is proposed that, instead of confining ourselves to the observation of symptoms only, a mode of proceeding open to the charge of being a superficial, unsatisfactory, and retrograde movement, we shall go deeper, and look at the *organs* of the body from which these symptoms arise, both when they spring from diseases, and when from drugs.

These thoughts were expressed in two propositions :—

"I. All drugs given in health act partially, or *select* certain portions or organs of the body upon which their injurious action is produced.

"II. Drugs are to be used as remedies for diseases of the same parts or organs as those upon which they act as poisons in health."[1]

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[1] 'A Letter to Sir B. C. Brodie, Bart., P.R.S.,' p. 84, 2nd Ed.

Other thoughts and propositions follow, which need not detain us now.

Having troubled you, by way of introduction, with these references, that what follows may be intelligible, I beg to lay before you some further thoughts upon this subject.

We will now, if you please, consider the same facts in another aspect. We have hitherto looked only at the *drugs*, and regarded *them* as *selecting* different organs, upon which to produce their specific effects; and thus, in the language of Professor Christison, they are said "to act on one or more organs only, not on the general system."[1] Let us now take a different point of view, and look at the *living organs of the body*, and we see *each of them selecting* their own drugs, as these are circulating in the blood, and separating them from that fluid; so that each particular drug may be found deposited in the tissue of one or of several organs; and thus the specific effect of the drug upon the organs which have appropriated it, whether as a poison, or as a remedy, are in part accounted for.

That drugs when taken into the stomach, or otherwise brought into contact with the living organism, are *absorbed*, and mixed with the blood, and so circulated in that fluid throughout the entire body, is, I suppose, now generally admitted. That these drugs can be detected by chemical analysis, in the various tissues and organs of the body after death, is also well ascertained. Therefore, instead of attributing, by the expressions frequently used, a sort of life and intelligence to inanimate drugs, we may reverse the metaphor, and speak of the effects of drugs as brought about by the *action upon them* of the *living organs* of the body, rather than by the action of the dead materials upon the living organs. Our language will still be metaphorical, but it will have the advantage of being of a less violent or extreme character.

Looking at the facts under this aspect, the propositions may be stated in this manner:—

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[1] Christison's 'Treatise on Poisons,' p. 19. 4th Edition.

I. Each organ of the body appropriates certain drugs; and its functions, or structure, or both, are in consequence altered.

II. An organ disordered in its functions, or diseased in its structure, may often be restored to a healthy state, by such drugs as it can thus appropriate.

From this point of view we look *at the living body*, and at the countless living actions which are simultaneously and unceasingly going on, with amazing vigour and activity, in the living organs. We see food assimilated and converted into blood, and by this process the entire frame continually restored; we see substances which cannot be thus assimilated, but which, nevertheless, are taken up into the blood, and appropriated by certain organs, and then follow effects sometimes evil, sometimes good.

To some, perhaps, it would seem to be a better way than either of these, to try to put the facts into words, which are free from metaphor, as, for example, into such expressions as these:—

Drugs taken into the stomach, or otherwise introduced into the body, are absorbed, that is, taken into the blood, and conveyed, by the circulation of this fluid, to all parts.

The organs have the power to appropriate the particles of these drugs thus circulating, that is, to separate them from the current of the blood, and to deposit them in their own tissue.

This is not done indiscriminately, but some organs take some drugs, and others take different ones.

The particles of a drug being thus placed in the substance of an organ, the manner in which that organ performs its functions is altered.

If the organ was previously in health, disorder or disease is produced; if not in health, the alteration effected is, frequently, the restoration of a healthy state.

These views are the more earnestly dwelt upon, because I think the true antagonism between the best part of the old practice, and the best part of the new will be found in them.

No doubt, a large portion of the usual practice of medicine is empirical, and mere routine, founded upon the supposed good effects of former experience; still, in all ages attempts have been made to introduce a principle, having a show of reason, in addition to experience.

Indeed, it seems scarcely possible to divest our minds of theoretical or hypothetical speculations. Hence, some system, however wild and chimerical, has always prevailed; one succeeding another, with greater or less rapidity, according to the general activity or torpor of the human understanding. The earliest notions of which we have authentic information were those of the four elementary qualities, hot and cold, and dry and moist; with the four humours, blood and bile, and phlegm and black bile; the coction of these humours, and the critical days on which this occurred. These hypotheses prevail in most of the essays or writings forming the Hippocratic collection; though they are vigorously opposed in one of them, the treatise on "the Ancient Medicine," in which this substantial maxim seems to be laid down, that nothing should be affirmed concerning nature, until the certainty of it is proved by the observation of the senses.

The system of Themison, and the methodists followed. In this view all diseases were arranged in two categories — the constricted and the relaxed, "strictum et laxum." The former, or constricted, included such diseases as apoplexy, lethargy, convulsions, angina, ileus, epilepsy, mania, jaundice, &c. The relaxed embraced gastralgia, cholera, hæmorrhages, &c. Two therapeutic rules were adequate to meet these views, namely, to relax when there is constriction, and to constringe when there is relaxation.

Methodism, by its easy simplicity, gained many admirers, and made rapid progress, until it was demolished by Galen, whose talents and learning did not preserve him from stooping to ridicule the disciples of this school, whom he called the "asses of Thessaly."

Galen restored the Hippocratic doctrines, and established the school of the dogmatists, which continued for fifteen hundred years, the dogma or maxim being "contraria contrariis curantur."

In recent times we have been again captivated by the charm of simplicity. Cullen introduced the "spasm of the extreme vessels," and its opposite relaxation. This was generalised to the uttermost by his pupil Brown, who distinguished only two pathological states,—the *sthenic* and the *asthenic*. The former included only a small number of diseases, the latter or *asthenic* was made to embrace all the rest; and these were to be treated indiscriminately with stimulants; than which a more mischievous doctrine could not be put forward.

All these systems, it will be observed, adhered more or less distinctly to the maxim "contraria contrariis curantur;" and it is in opposition to these that Hahnemann contended for his method, "similia similibus curantur."

But among the many efforts, successively made, to establish a theory, one of the latest, and the one having most to recommend it, is the method of avoiding the diseased organs, and acting upon the healthy ones,—the principle of revulsion or counter-irritation.

This principle, and the principle of homœopathy, as interpreted in this Essay, are based upon the same general fact, namely, the *local* action of drugs, or the specific action of each drug upon special organs, to the exclusion of other parts of the body.

The older notion professes to relieve or cure a disease situated in one locality, by giving such drugs as act upon another; or, by producing an artificial irritation or morbid condition in one or more of the healthy parts, by means of which the original ailment, affecting some other part, shall be mitigated or removed.

One of the most talented and energetic advocates of this method was the late Dr. Armstrong; whose Lectures on the Practice of Medicine attracted enthusiastic audiences in London forty years ago.

It is obvious that this method, and the one now advocated, start at the same point, or rest upon facts admitted by, and essential to both, namely, the local action of remedies; but in the next step they are diametrically opposed to each other;—the one acts upon the healthy parts, and avoids the diseased ones; the other acts upon the ailing organs, and carefully leaves the healthy ones untouched. Or, the one adds an artificial disease to the natural one; the other lets well alone, and endeavours to cure by direct action upon the diseased part.

It is, I think, not less obvious which of these two methods commends itself most to our common sense. The only question which is likely to be asked is a practical one; if the latter plan is adopted, that is, homœopathy, or as it might be called, taking our present view of it, *Organopathy*,[1] is it practicable? and if so, is it successful?

That this plan is both practicable and successful, all who have met me here to-day bear witness. For, though most of you may have followed Hahnemann in observing and prescribing for symptoms only, yet it is clear that, if the symptoms of the drug given as a remedy be really the same as, or very similar to, those of the disease for which it has been prescribed, the organs acted upon by the drug must generally be the same, or nearly the same, as those in which the disease is seated; that is to say, in the cases which have been best observed and best prescribed for.

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[1] I dislike sectarian names, but it is impossible to avoid them.

For the satisfaction of those who have not practised according to the homœopathic method, it will be required to lay before them well-selected and important cases;—cases in which there cannot be much doubt as to the seat of the disease, nor as to the organs which have the power of selecting the drugs given; and from which it shall plainly appear that the organs which are affected by disease, and which appropriate the drugs given, and are benefited by them, are the same.[1]

This, it is believed, is *the true basis of medicine.*

It was the conviction of Boerhaave, than whom modern Europe has not seen a greater physician, that he knew no remedy but that which was made such by being opportunely used; ("Nullum ego cognosco remedium nisi quod tempestivo usu fiat tale"). Now, to discover, by a careful diagnosis, the affected organs, and to prescribe, by an intimate toxicological acquaintance with drugs, that which these organs will appropriate, is to use the opportune remedy; and this may be adduced, if you please, as an illustration of the saying of Pittacus, one of the seven wise men of Greece, that "opportunity is everything."

Study symptoms as much as you can, the more accurately and minutely the better, but do not rest satisfied with this; trace them to the internal parts whose morbid condition has produced them, — be pathologists. And so with drugs; the profession is deeply indebted to Hahnemann for setting the example of proving drugs on healthy persons; let this be done again and again, with all the helps that modern science, particularly chemistry, can afford; but do not stop with the observation of symptoms; try to get at the internal morbid state: for this purpose such works as that of Professor Christison, "on Poisons," will be useful. By joining these two arches together *the gulf which has hitherto separated diseases and remedies may be bridged over.*[1]

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[1] I am aware that men brought up with a severe mathematical education are apt to be dissatisfied, unless they can have a demonstration. This perhaps arises from want of more reflection, and of a more extended acquaintance with other branches of knowledge. It may be suggested that questions in Physiology and Medicine have too many elements in them to admit of such demonstration; and further, that if the received practice met with similar doubts and objections, it would be shattered to pieces at once.

You shall be detained with only one remark further on this part of my subject. With a good pathological diagnosis, when the organs which are the seat of disease are well ascertained; and with a good knowledge of the preference of certain organs for certain drugs, it is clear that it is possible to prescribe so as to act either upon the healthy parts or upon the diseased ones. In deciding which method, of these two, ought to be adopted, there is a precept of the Father of Medicine which will help to guide us. He says, "The physician ought to do good to his patient:—or at least he should *do no harm.*" Now the counter-irritant plan, if carried out beyond a mustard poultice, or some innocent proceeding like that, transgresses this wise precept. For, it creates *an additional ailment,* by irritating or inflaming some previously healthy part. I remember an old lady, when it was proposed to put an issue under the knee for an ulcer on the ancle, exclaiming, "then I shall have two sores instead of one!" Let us be content with nature's one sore, and do our best to heal it; and if homœopathists will accept these views, and put them forward with good sense and good manners, their adoption by the entire medical profession need not be despaired of.

We may now understand the work in which, according to the notions I have had the pleasure to suggest to you, we have steadily to be engaged.

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[1] During the discussion after the reading of this Address, I was informed that it has been objected to these views, that the careful observation of symptoms has been forsaken for the study of morbid appearances: this, assuredly, is a great misapprehension of my meaning.

There are three ways in which disease is to be studied, in order to ascertain the organs which are affected, in what manner, and to what extent.

1st. In the symptoms which are produced by them. The science of *Semeiotics*. This has been very diligently pursued since the days of Hippocrates, and specially and very minutely by Hahnemann, and those who consider themselves as forming his school.

The deficiency in this department is the want of the power of discriminating between such symptoms as are peculiar to, or characteristic of, each organ, or set of organs, and such as are not.

2nd. In the morbid conditions, and appearances after death, connected with the symptoms. The science of *Pathology*. This department has also been laboriously toiled in from the time of Morgagni, by all schools except that of Hahnemann. The deficiency to be noted is the want of a closer connection of the symptoms with the morbid changes belonging to each organ.

These two branches of science have been well studied separately. Both would be made more useful in practice, if the link which binds them together were made stronger, and brought more prominently into view.

3rd. In the changes in the material composition of the organs affected. The science of *Chemistry*. This is more difficult, and consequently less advanced than the other two. Nevertheless, a start has been made, and not without meeting with good encouragement to proceed. It calls loudly upon the younger members of the profession to engage in its pursuit.

And there are three similar ways in which we may learn the local action of drugs, by which to be guided in their use. The art of *Therapeutics*.

1st. By the *symptoms* they produce when given to healthy persons. The world is greatly indebted to Hahnemann for taking the lead in this research; others have since devoted themselves to it, and have accumulated a vast bulk of details. Two deficiencies are to be noted; the symptoms which are essential and characteristic need separation from such as are trivial and unimportant; and the connection between symptoms and the organs whose maladies give rise to them requires to be made plainer.

2nd. By the *morbid conditions, and appearances after death.* This has been accomplished to some extent by toxicologists in connection with jurisprudence. It needs to be much further developed, and to be brought into contact with therapeutics.

3rd. By the *presence of the drug* in the organs affected by it. What knowledge we possess on this subject we also owe to the students of toxicology. It is little advanced, and will reward further research.

Such is a brief record of thoughts which, in obedience to your request, I am happy to lay before you. It is hoped that it may prove both suggestive and stimulating: should it do so, your happiness, as well as mine, will be increased.

The remarks on pathology in this Essay have been met by some critics with the assertion that the internal conditions, as well as the outward signs, are to be enumerated as *symptoms*. This is to obliterate the distinctive meaning of words, and to stultify all serious discussion. Symptoms are signs. There must be the thing signified. An inward inflammation shows itself outwardly by a quickened pulse, a hot skin, loss of appetite and strength, &c., and the patient says he has pain. These are the symptoms of the inflammation. The inflammation is the pathological condition, and the cause of the symptoms. When one of the orifices of the heart is narrowed, or when the rush of blood through it is much increased, on listening to the heart's movements we hear the bellows sound. The former is the pathological condition; the latter is the symptom which is caused by it.

No branch of knowledge can be extended, unless the writers upon it agree to give the words they use a definite meaning, and adhere to the use of these words in the sense which has been given them. (1874.)

ESSAY XVI.

THE PHYSIOLOGICAL ACTION OF MEDICINES.

"Among all the gratifications of life, I know of none greater than learning some new mode of curing diseases or relieving pain."

DR. CORRIGAN.

ESSAY XVI.[1]

THE PHYSIOLOGICAL ACTION OF MEDICINES.

> "It is foolish to make that a matter of discussion which any one may decide by experiment." STAHL.

MEDICINES are substances belonging to the mineral, vegetable, or animal kingdoms, which are not nutritive, or which are not assimilated by the process of digestion, and therefore cannot, in this sense, contribute to the preservation of the living body.

For the purposes of this paper they may be described by three characteristics; characteristics well known and admitted, but hitherto unexplained:—The first, that their action is more or less partial or local; the second, that this action in disease is often curative; the third, that in health it is always more or less injurious.

I. The action of medicines received into the body is local; to borrow an old chemical phrase, there is a sort of elective affinity between certain organs of the body and certain drugs. This fact is as well known, though as unexplained, as the parallel fact that each organ selects from *the same current of blood* the elements of its own nutrition; organs differing as much as the brain, the muscles, the bones, the ligaments, the skin, the organs of the senses, appropriate from the same liquid the materials for their own construction and constant reparation ; so with respect to medicines, one organ appropriates one, and another organ a different one; and this fact is proved both by the effects produced upon the organs during life, and by chemical analysis after death. Upon this fact is founded the use of drugs as medicines by all schools and upon every doctrine. This is the first characteristic.

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[1] First published in 1866. This Essay was read at the Meeting of the 'British Association for the Advancement of Science,' at its Meeting in Nottingham in August, 1866.

II. The second, drugs used as medicines in disease often have a curative effect. This also is an admitted but unexplained fact.

On these two characteristics you need not be detained longer by any further observations.

III. To the third characteristic I beg leave to call your serious attention. It is this, the action of drugs, when taken in health, is always more or less injurious, —hence the name of *poisons* given to the more active among them. This also is a notorious fact, and alas! one which often produces consequences inflicting severe grief and irreparable loss. Consequences so painful, that they have hitherto directed men's attention almost exclusively to the discovery of antidotes for their prevention or removal.

But it has been again and again suggested that there is another aspect in which the action of drugs in health must be contemplated, namely, with reference to the employment of them as medicines. Drugs have been diligently investigated by the students of toxicology and medical jurisprudence ; they require to be as diligently studied with regard to therapeutics.

The first who suggested this view of the subject and its importance, so far as I can discover, was HALLER, about a century and a quarter ago. These are his words :—

"In the first place, *the remedy is to be tried on the healthy body; without any foreign substance mixed with it; a small dose is to be taken; and attention is to be directed to every effect produced by it;* for example, on the pulse, the temperature, the respiration, the secretions. Having obtained these obvious phenomena *in health*, you may then pass on to experiment on the body *in a state of disease*."[1]

Eminent physicians, from time to time, have expressed their approval of this suggestion; and in 1842, about a hundred years after its proposal by Haller, it was more formally recognised. A public assemblage of medical men, at the scientific congress held at Strasburg, in that year, announced the adoption of the proposal in the following resolution:—

"The third section (the medical) are unanimously of opinion that experiments with medicines on *healthy* individuals are, in the present state of medical science, of urgent necessity for physiology and therapeutics; and that it is desirable that all known facts should be methodically and scrupulously collected, and with prudence, cautiousness, and scientific exactness, arranged, written out, and published."

Such was the resolution, passed unanimously, at the scientific meeting at Strasburg. Twenty-three years after the passing of this resolution, namely, at the meeting of the British Association at Birmingham last year, Dr. ACLAND introduced the subject from the chair of the section, and the following resolution was agreed to, and was afterwards presented as a Memorial to the General Medical Council, by Dr. Acland, on the 17th of May of this year:—

"Having regard to the observations of the President, Professor Acland, in his inaugural address, the

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[1] "Primum, *in corpore sano* medela tentanda est; sine peregrinâ ullâ miscelâ; exigua illius dosis ingerenda; et ad omnes quæ inde contingunt affectiones, quis pulsus, quis calor, quæ respiratio, quænam excretiones, attendendum. Inde adductum phænominorum *in sano* obviorum, transeas ad experimenta *in corpore ægroto*."

Committee of the sub-section of physiology, desire respectfully to intimate their opinion of the great advantage which would accrue to physiological (and thereby to medical) science, if the General Council should think fit, by pecuniary grants and the appointment of suitable persons, to undertake investigations into the physiological action of medicines. A few agents when administered in poisonous doses have alone been made the subjects of such research; and whilst the remedial effects of even such well-known agents as quinine have been admitted for ages, their modes of action are still unknown. Even to this moment our knowledge of the action of remedies rests only upon ordinary observation and general inferences. The Committee is well aware of the extreme difficulty of prosecuting exact physiological enquiries *in states of disease*, and, above all, of the necessity of devising *new modes of investigation;* but, bearing in mind recent researches of an analogous nature *in health*, they do not doubt there are physiologists and physicians of approved ability in such researches, who would be able to devise the methods, and bring the results to a satisfactory conclusion. The Committee also venture to suggest that no experiments should be regarded as satisfactory which (in addition to others) are not made in ordinary medicinal doses in the diseases for the relief of which the remedies are administered, (as well as in poisonous doses,) and which are not performed with all the care and exactitude known in modern physiological research. That this resolution be signed by the President, Vice-President and Secretaries, on the part of the Committee, and that the President be requested to present it to the Medical Council."

The presentation of this Memorial to the Medical Council was followed by an animated discussion, in which the importance of the subject was admitted on all sides; and though the adoption of the proposal was negatived by sixteen votes, on the ground that to undertake the task suggested would be to exceed the powers given to the Council by the Act of Parliament, five members voted in its favour.

Such have been the suggestions and resolutions to make experiments with drugs upon *healthy* persons, up to the present hour, The subject is now in the hands of Dr. Acland, whose good commencement reflects upon him high praise, and I trust he will prosecute his undertaking with vigour. Let it not be supposed that I wish to hinder, or in any way to interfere with his work; on the contrary, the motive which has urged me to read this paper is the hope of offering some assistance. Having myself been deeply interested in this subject for many years, I could not be altogether silent now that it has been formally and officially brought before the British Association;—a society of which I have been an attached member almost from its origin; a society which has so many claims to the gratitude of England, for the helping hand which it has held out to all lovers of science; a society which, if it now inaugurate a new investigation into the properties and uses of drugs as medicines, will add another claim to this gratitude, the magnitude of which cannot easily be exaggerated.

Thus experiments to ascertain the physiological action of medicines have been suggested; a question now arises, have they been attempted? They have, by several hands; and before a fresh series of experiments is commenced, it will be well to examine the labours of our predecessors.

Haller was the first to make the proposal; but he did not attempt the work. Probably the first who did so was Stoerk, of Vienna, physician to the Emperor. Just a hundred years ago, he undertook to investigate the action of several powerful drugs upon himself; for example, *conium*, *colchicum*, *aconite*, *stramonium*. His experiments attracted wide attention; the subjects of them were rapidly introduced into extensive use as medicines; unfortunately, they were too highly praised, and healing powers beyond the truth were attributed to them; as a natural consequence they, and the worthy author of the experiments upon them, passed into neglect and almost into oblivion.

Some thirty years later, another German physician took up the subject with great energy and perseverance; and, after having devoted to it many years of untiring labour, produced a whole Materia Medica of drugs, with which he had experimented upon himself, and upon numerous friends, whom he had induced to share with him the trouble, the suffering, and the risk.

These volumes have now been studied, day and night, by some thousands of medical practitioners, and have been their almost solitary guide through a successful practice of their profession, for nearly seventy years, and in every region of the civilised world.

This is an undeniable fact, and of itself gives the experiments of Samuel Hahnemann a claim to respectful consideration.

In support of these experiments it may be stated:—

1. That they were made by a considerable number of intelligent persons, of different ages and temperaments, and of both sexes.

2. That they were made by these persons in *health*. Haller's first requirement.

3. That each drug was experimented upon *by itself*, without any foreign substance being mixed with it. Haller's second requirement.

4. That the doses made use of were generally small ones. Haller's third requirement.

5. That the results of the experiments were diligently and conscientiously observed, and written down. Haller's fourth requirement. This was carried so far that even details apparently insignificant were inserted, lest any real effect of the medicine should be omitted.

6. That the mental and moral conditions, as well as the bodily symptoms, were carefully noted.

7. That a novel, and, I think, an excellent method of preparing the drugs for experiments was adopted. Plants were bruised while fresh and in perfection, and the sap, obtained by straining, was mixed with alcohol, (to prevent fermentation and decomposition,) and used in this condition. Infusions, decoctions, dried powders, extracts, and other complicated preparations being rejected. Minerals, and other insoluble substances, were reduced to a state of minute division by being triturated with an inert material. In this way, it may be remarked, an admirable reform was introduced into pharmacy.

8. That, lastly, a strict regimen was adhered to by each person, during the time the experiments were being made.

These are conditions which, as it appears to me, must be observed in any future experiments upon the physiological action of medicines. It will be possible to add to their completeness by availing ourselves of mechanical inventions such as the stethoscope, and of the processes of modern chemistry.

What I think are defects not in Hahnemann's experiments, but in the record he has given us of them, and which it will be necessary and quite possible to avoid in reporting further investigation, shall now be pointed out. It is to be regretted that those who have followed Hahnemann, and who have repeated and greatly increased his observations, have also, for the most part, repeated his defects.

These defects consist :—

1. In, commonly, not stating the doses of the drugs which were taken in the experiments.

2. In not recording the daily progress, so that a case of experiment might be reported in the same way as a case of disease.

3. In breaking up the connection of morbid phenomena, in order to arrange the symptoms under headings made of the different parts of the body, as the eyes, ears, nose, mouth, throat, chest, stomach, arms, &c. &c.

4. In mixing, in this arrangement, the symptoms which had been experienced by a dozen or more separate persons.

5. In adding to the symptoms of the experimenters those of accidental, and even of fatal cases of poisoning, without indicating which symptoms belong to these, nor the doses by which they were produced.

6. In recording, without discrimination, every trivial sensation and every slight circumstance occurring after the dose of the drug had been taken. In this manner symptoms have been accumulated to such an extent, that with many drugs it is very difficult to lay hold of their characteristic effects.

Such are the deficiencies in the reports; but there is one defect, which belongs to the experiments themselves, as well as to their record—though Hahnemann himself and many of his admirers regard it as one of the great excellencies of his system—namely,—

That he limits himself to the observation of symptoms, and does not endeavour to connect them together, so as to represent a pathological condition. But as I read a paper on this subject last year at Birmingham,[1] it need not be enlarged upon now.

Notwithstanding these defects, obvious and grave as I think they are, the work undertaken and accomplished by Hahnemann was a mighty work, and it was nobly done; and I trust the time will come when he will receive the grateful thanks of the profession, as well as of the world.

The time which can be reasonably claimed for this paper is so limited, that it would be impossible to give even a sketch of what has been done in this province of labour by others since Hahnemann's time. But a great deal has been accomplished, with which those who are willing to begin the work afresh should make themselves acquainted. There are upwards of three thousand medical men of this school on the North

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[1] 'Medical Systems.' Essay xv.

American Continent alone, and many among them are able and industrious men. I will content myself with one extract from an address delivered not long ago at New York. Dr. W. H. Watson spoke to this effect :—

"If Hahnemann had done nothing else he would be entitled to the lasting gratitude of mankind, for his suggestions in regard to acquiring a knowledge of the medical powers of drugs, by experimenting with them on the healthy subject. This is the glorious mission of our school. While our brethren, under the guidance of Rokitansky and his colleagues, are rendering great service to the world by elucidating the effects of disease, through their researches in the domain of pathology, to us belongs the honour of discovering and applying those remedies which will relieve the diseased conditions brought to light by the knife of the pathologist. It is only by large numbers of persons that reliable provings of drugs can be carried on. The constant symptoms, obtained by hundreds of individuals from the administration of the same drug, must necessarily be its characteristic symptoms ; whereas many of the symptoms obtained by a single prover may be purely imaginary, or the result of some accidental cause, and have no relation of cause and effect to the drug which has been admistered. But when a hundred persons in good health are affected in a certain manner, after taking a particular drug, the conclusion is irresistible that the symptoms thus produced are the effects of the drug which has been administered."

I will now, with your permission, venture upon some *suggestions* which may be of use to those who shall undertake the further prosecution of this great work.

I. On the *objects to be pursued.*
II. On the *mode of proceeding.*
III. On the *utilisation of the results.*

I. On the objects to be pursued.

These, I think, are the three following :—

1. To ascertain the *organs affected* by each drug.
    (*i*) By careful diagnosis.
    (*ii*) By chemical investigations in cases of fatal poisoning.

2. To learn the *effects produced* upon these organs, the pathology and morbid anatomy.
    (*i*) By observation of symptoms.
    (*ii*) By post-mortem examinations.

3. To discover, if possible, the *modus operandi*. This object, I think, must of necessity be postponed, until the two former have been considerably advanced.

In attempting to ascertain the organs affected by each drug, a great deal of care will be needed with respect to the *doses* with which the experiments are made, Tartarised antimony may be mentioned as a familiar example of what is meant. This, as you are all aware, in one dose acts on the lungs, in another on the skin, in a third on the bowels, and in a fourth on the stomach.

Another point of importance is to discover the organ which, in a given dose of the drug, is the *first* to appropriate it, and so to be acted upon by it ; then that which is *second, third*, and so on. In this way the several organs which have an affinity for the given drug may be made out, and their relative power of attraction. As an illustration of this point the *heart* and its strong affinity for the following drugs may be referred to :—

Aconite,
Spigelia,
Bovista,
Digitalis.

The primary action of these drugs, in certain doses, is on the heart ; but if we enquire after the secondary one, that is, after the organ which, in the second place, or in a subordinate manner, appropriates each of them, we shall find that it is different for each, *e.g.* :—

Aconite, after the heart, affects the brain and nerves.
Spigelia, ,, ,, the eyes.
Bovista, ,, ,, the skin.
Digitalis, ,, ,, the kidneys.

It would be easy to enumerate a large number of drugs, whose affinities with certain organs have been already ascertained with some precision; but enough has been said to indicate the direction the investigation should take, and to show how attractive and useful it must necessarily become to those who are disposed to given to it their time and attention.

II. On the mode of proceeding.

1. The experimenters should be intelligent men, and the more of them the better, especially of medical men.
2. The best known drugs should be experimented upon first; next, the commonest wild plants of our native country: as the daisy, buttercup, dandelion, furze, white and black thorn, &c. &c.
3. The committee of experimenters should agree to try, at one time, one and the same drug.
4. The doses should be agreed upon. Three classes have been recommended—
    (*i*) Poisonous.
    (*ii*) Medicinal.
    (*iii*) Infinitesimal.

The first to be used only upon animals. These experiments I beg leave to protest against; any advantages to be derived from them do not compensate for the cruelty; the effects of poisonous or semi-poisonous doses may be learned from cases in which they have been accidentally or wilfully taken.

The second, (medicinal doses,) which may vary considerably as to magnitude, are those which should be taken by the experimenters.

The third, (infinitesimal doses,) should, I think, be postponed till sufficient positive information regarding the second has been obtained.

It is a question whether the experimenters should know what they are taking, and it has been recommended that they should not know. I think they should sometimes know, and sometimes not. When the drug is a poison, and the doses considerable, then, I think, the person taking them should always know.

5. The experimenters should be in health; a moderately careful regimen should be observed; the drug should be unmixed with others; and the mental and moral state should be recorded, as well as the bodily condition.

6. The reports should be drawn up just as cases of natural disease have been reported by physicians since the days of Hippocrates; the symptoms conscientiously written down day by day; and a careful diagnosis and pathology attempted.

7. An analysis should be made of all the cases thus reported of experiments with the same drug, and conclusions drawn—

(*i*) As to the organs which have shown an affinity for the drug; the degrees of this affinity; and the doses required for each organ.

(*ii*) As to the changes produced in the several organs—the pathology.

If an earnest investigation be undertaken, with these objects in view, and pursued in the manner proposed, information will be gradually accumulated, which may be drawn up in a *compendium*, or in *tables;* showing the several organs and tissues of the body, and the drugs, and their doses which each can appropriate; the physiological or pathological changes occasioned in consequence; and the characteristic symptoms, mental, moral, and physical.

III. On the utilisation of the results.

No doubt the love of truth for its own sake should be the strongest stimulus to the efforts of the experimental philosopher; still the question of usefulness, how to turn the discovery of truth to practical advantage, is a lawful one, and, in the case before us, one of pressing interest and importance to the well-being of mankind. What then is the practical end of these investigations into the action of drugs in health? Suppose the tables just now mentioned were completed, (would that they were!) how are they to be utilised? It seems to me that this would be by a comparison being instituted between the *physiological* and the *therapeutical* action of medicines; a comparison between the effects of drugs in health, and the effects of the same drugs in disease. When this comparison has been made, the further question will arise how far, and in what manner can the physiological action guide the therapeutic use? How can these experiments in health be made use of to direct the employment of the same drugs in disease? It is in the highest degree probable that the result of this aggregate of experiments and enquiry will be the establishment of *a principle* which shall be, for all time coming, a settled rule in therapeutics,—the compass, the guiding star to the medical practitioner.

One concluding observation—

Diseases are more or less local; the action of drugs is also local; it follows that there are two ways in which drugs may be used as remedies: they may be given, in any case of illness, so that the action shall be upon those organs which remain healthy, or upon those which are affected by disease. The former of these methods has been longest in use; the latter, in my judgment, presents the most successful results. Both these methods rest upon the same fact, namely, the local action of medicines; both may be theoretically explained; both have observation to justify them; and there cannot be a more interesting, or more useful problem for the younger medical men of the present generation to seek to solve, than this :—the investigation of the physiological action of medicines, with the view to determine their therapeutic use.[1]

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[1] The reading of this paper was followed by an interesting discussion, in which several medical men took part, and which was closed by the President, Professor Humphry, who observed that the paper had been well characterised as a suggestive one, for that, in reality, our knowledge upon the subject was as yet small. (1866.)

It seemed due to Professor Acland to learn from him what he has done further in this direction. His reply to a letter of enquiry this month is that he is sorry to say that unceasing pressure of work has hindered him from writing more on the subject. (February, 1874).

ESSAY XVII.

ORGANOPATHY.

"Every man, from the highest to the lowest station, ought to warm his heart and animate his endeavours with the hope of being useful to the world, by advancing the art which it is his lot to exercise; and for that end he must necessarily consider the whole extent of its application, and the whole weight of its importance."

SAMUEL JOHNSON.

ANALYSIS.

I. *Review of the Past and Present State of Medicine.*

1. Authority—routine.
2. Reason—dogmatism.
3. Experience—empiricism.
4. Nature—scepticism.
5. Physical science—philosophy.
6. A principle—homœopathy.

II. *A Practical Investigation of Homœopathy.*

1. The principle separated from the dose.
2. The principle restricted to drugs.
3. The local action of drugs.
4. Organs the seat of symptoms—*Organopathy.*
5. Component parts of organs.
6. The dose.

III. *Address to the different Sections of the Profession.*

1. To those who appeal to authority.
2. To the dogmatists.
3. To the empirics.
4. To the sceptics.
5. To the philosophers.
6. To the homœopathists.

Conclusion.

ESSAY XVII.[1]

ORGANOPATHY.

"If it be hard to think and write justly, it is harder yet to bring others to one's own taste." RICHARD MEAD.

PLINY, in his day, complains that those who have attempted to draw pictures of plants have shown nothing clearly but the difficulty of their undertaking. Physicians, in all ages, have busied themselves in writing books on medicine; but the only point they have concurred in proving is the perplexity of their task.

In our day artists have succeeded in producing pictures of plants which well represent the elegancy of their forms, and the beauty of their colours. In the interests of humanity it is to be hoped that medical writers may be permitted to approach a similar perfection, and be able to describe disease as it is, and its treatment as it ought to be.

There is, indeed, an impression prevalent even among educated people, that medicine has long been settled, if not in its principles, at least in its practice; and this makes them prefer what they call "the regular steady practice according to rule," or even what they allow to be the mere repetition of routine, to the views and treatment of any new school, simply because they are new and comparatively untried.

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[1] First published in 1867.

Let us therefore look at the progress of medicine in past times, and at its present condition.

If in doing this what seem to be errors are pointed out, let me disclaim improper motives and uncharitable feelings, and offer a protest against being supposed desirous to hold up any one to ridicule or contempt, when sayings are quoted, or doings are referred to, in themselves ludicrous or foolish. I would gladly make no reference to the common modes of practice, past or present, if, without this, it were possible to do justice to my subject. But when the matter under discussion is the comparative merit of rival claimants, it is an unavoidable, though it may be a painful duty, to represent fairly not one side only, but both.

My readers are asked first to look at the difficulties and perplexities of medical affairs up to our time, as Pliny looked at the botanical pictures of his time; and having seen these, to turn with pleasure to that side of the subject which begins to resemble plants painted by a modern artist.

Authority—routine. We are told that the beginning of medicine among the ancients was the exposing of the sick in public, so that any passer by, who had been similarly attacked and cured, might give his advice. Later than this, all who were cured were required to go to the temples, and there record the symptoms of their disease, and the remedies which were thought to have cured them. For a time every one had the privilege of going to consult these registers, and choosing for his sickness, or for that of his neighbour, the medicines of which experience had seemed to show the value. Afterwards these facts were collected. Then, the priests attached to the temples seized the practice of the art, and formed a medical code which was called the *sacred book*. From the directions of this book the priests who followed were not permitted to vary; if, in obeying the rules there laid down, they could not save their patients, they were not held responsible; but if, after departing from them, the result did not justify their course, they were *punished with death.*

Thus, on the plea of *authority* all further progress in the healing art was arrested, and the tyranny of *routine* established; and it is worthy of note that with this wretched state of things the ancient public seem to have been satisfied.

At a later period, in the best times of Greece, medicine was delivered from priest-craft by Hippocrates and others, and became a profession of its own.

During the general decay of learning and liberty in the middle ages, it fell again into the hands of the priests; and this led to the separation (a misfortune I think) of surgery from medicine. At the period of the Reformation the treatment of the sick was again surrendered by the priests to a medical faculty; but the separation of surgery from medicine continued, and in this country was perpetuated by the charter of king Henry VIII.

For about three centuries medicine has belonged to men exclusively devoted to its study and practice. It has made progress during this period, and notably in some of its branches, as anatomy, physiology, animal chemistry, and pathology. But in respect to therapeutics, or the actual treatment of the sick, this progress has been checked by two characteristics apparently opposite to and inconsistent with each other—violent changes on the one hand, and unthinking routine on the other. Men of energy and industry have successively pushed themselves forward as leaders; so that doctrines the most contradictory, and practice the most opposite, have been in vogue, not only in succeeding ages, and in different countries, but in the same age, and in the same country. And yet, no sooner has a teacher etablished a reputation, and formed a school, than *routine* reigns among his followers. The excuse offered for this being the *authority* of the master.

Sometimes routine is even more unthinking than this:—a physician of some eminence lately prescribed for a patient not far from me, and on being asked why he had written the prescription, he replied, "because I think it will do good." But, said the questioner, you must have some reason why you think so, and the second reply was, "I don't know at all!"

Among the ancient priests there was but one routine; among the modern medical practitioners there are many; but the opposition and contradiction of the teachers has, until lately, remained within the pale of the faculty. And the public in Europe have had very much the same feeling, on medical matters, that the public in Chaldea or Egypt had in old time; they have liked what they thought was the regular steady practice according to rule, or they have made up their minds to be content with routine.

That it is not a mistake to represent the educated people in England as in the condition of the same classes three or four thousand years ago, will appear from the following letter which I had lately the pleasure to receive:—

> "The art of healing is in reality so complex and varied that a very large part of it appears to me to rest on an unexamined routine. Certain medicines are usually given to certain cases because they have always been given. Even if a medical attendant has no reason whatever to give for using them, he continues to use them, because he knows no better. He feels that in the beaten track the responsibility is not his, but the profession's. But if he stir out of the beaten track the whole responsibility becomes his. And this he dares not face.
>
> "All honour is therefore due to those who set themselves to force this routine to give an account of itself. In most cases it can give no account. But even when it can give no account it always dies hard.
>
> "The ordinary allopathic treatment often reminds me of those savages who, at the time of an eclipse, beat kettles to drive away the monster that is devouring the sun. The medical men find that with their treatment the patient often recovers: the savages find that the sun always reappears. The logic of both is often nearly on a par."

This view of professional routine, taken by intelligent laymen, is bad, but it is not so bad as the reality.

It would be much worse if they saw that medicines are given, not because they have always been given, but because they have been lately recommended by *some authority;* while other medicines of an opposite tendency are given in similar cases by others, because they have been praised by *another authority;* and this not for one disease or two, but for all. Bleedings and purgatives are had recourse to by this practitioner; stimulants and tonics are given by that, for the same maladies.

The treatment which the investigators of homœopathy have met with from the profession is, to some extent, undeceiving the public on this topic, and laymen are beginning to understand that, up to this hour, there is nothing settled in the art of healing; that, on the contrary, the most discordant doctrines, and the most antagonistic methods of treatment are advocated by contemporary teachers, are adopted by their pupils, and become parallel lines of routine.

The professional body may therefore be divided into the teachers and the taught, or into those who occupy posts of authority, and those who follow routine.

We need not concern ourselves further at present with the latter; but if we carefully examine the former we shall find that they are composed of the following sections:—

Reason—dogmatism. If we look back upon the noble minds of antiquity, we find Hippocrates, indeed, endeavouring to limit himself to the observation of the phenomena of diseases, and the effects of remedies. But, immediately after him, we see the staff of teachers, headed by Thessalus and Polybius, and, at a later period, by Galen, trying to use their reason in assigning the causes of morbid phenomena, and so becoming bewildered in pathology and therapeutics in which both diseases and remedies are hot, or cold, or wet, or dry; and we find them, especially Galen, misled by a maxim derived from these imaginary qualities, and teaching that *diseases are cured by their contraries.*

This was the dogmatic school of the ancients, and it reigned without a successful rival for many centuries.

If we look at the men who have been teachers since the revival of learning in Europe, we see with surprise how the *medical chemistry* of Silvius, and the *medical mechanics* of Borelli, have had their triumphs and defeats; how Stahl established, as he thought, his vital dynamics or *autocrateia;* Hoffmann his *medicina rationalis systematica;* Boerhaave, among other doctrines, that *de glutenoso spontaneo;* Cullen his *spasm of the extreme vessels;* Brown his two classes of disease, the *sthenic* and the *asthenic;* and how these and other systems have been, as Etmuller expresses it, successively "hissed out of doors."

And we look with wonder at the fact that the same tendency to speculate still misleads the best minds of our own time. A single instance will illustrate my meaning. A familiar doctrine of fever has just been mentioned. Cullen's spasm of the extreme vessels; a doctrine at one time widely received, but in itself nothing more than a conjecture resting upon no solid foundation, and now everywhere rejected. Yet, in a review lately published, written by a physician of authority and eminence, we find a similar doctrine of spasm, which is advanced by the writer of the book reviewed, and applied by him to the explanation of cholera, spoken of thus, "surely this seems a reasonable theory!"

The author of the book "*supposes that a spasm,* or cramped state of the muscular fibres which embrace the minute pulmonary arteries, [Cullen's extreme vessels,] *is caused by the choleraic poison,* and bars these slender channels against the advancing blood." "Surely this seems," says the reviewer, "a reasonable theory . . . *and we may understand how bleeding may help by relaxing the spasm.*" And so we still have *suppositions* as explanations and guides in practice, laid before us by acknowledged teachers, instead of observation, analysis, and induction. An old friend of mine wrote in the margin of his "Cullen," more than fifty years ago, opposite the words "relax the spasm,"—"It is sad indeed that a head so clear as the author's should thus be haunted by spasm!"

Truly Hippocrates said well "the art is difficult!" These are the mistakes of faithful men, of men who have the strongest claims upon our respect and admiration. They are men who have mourned over the imperfections of their calling, and who have spent a long life in earnest efforts to remove them; men of genius, learning, and industry; men who, when other people went to bed, lighted a fresh candle. Moreover, they are men who have ever made a ready response to the calls of duty, whether those calls have come from patients needing succour, or from medical men seeking information.

Experience—empiricism. As there was among the ancients, so there is among moderns, another class of worthy men in the faculty, men of strong minds, good sense, and simplicity of purpose, who distrust authority, and who are convinced of the failure of reason when employed in speculation. These men take up another position, and, rejecting hypotheses of all kinds, rely upon *experience.* Dr. Stokes recently gave expression to this view in the Medical Council of the Empire, on seconding Professor Acland's motion.[1]

"There can," he said, "be no doubt that medicine requires to be placed on a much more scientific basis than it at present possesses. It is now simply *empiricism;* and that empiricism is only tolerable and useful because it is wielded by thoughtful men."

In the opinion of this section of physicians no true theory of diseases and their treatment is yet known. They look upon the explanatory contrivances of the dogmatists as belonging to the evils which flew out of Pandora's box. They limit themselves therefore to the observation of what the senses can teach, and in prescribing rely upon what chance, or what experiments made on the sick, has taught them.

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[1] This motion is noticed in Essay XVI, p. 419.

I remember a distinguished physician, to whom I was then a pupil, prescribing *carbonate of iron* in large doses for every patient, (and they were many,) that he saw for some days; and this notwithstanding the wide disparity in the nature of their cases. He wished to learn what iron could do, and he made the sick his subjects. This is empirical experiment.

A few months ago a gentleman from an adjoining county consulted me for the usual symptoms of indigestion brought on by hard study. For *eleven months* he had been under the care of the leading physician of his town and neighbourhood, and during those eleven months he had received from this gentleman separate prescriptions of the following drugs; the "adjuvantia, corrigentia, et cætera" with which they were combined, being omitted.

1. Triticum repens.
2. Phosphoric Acid.
3. Rhubarb.
4. Iron and Quinine.
5. Capsicum.
6. Prussic Acid.
7. Gentian.
8. Nitric Acid.
9. Quassia.
10. Bicarbonate of Potash.
11. Chloric Ether.
12. Liquor Potassæ.
13. Taraxacum.
14. Bismuth.
15. Salicine.
16. Cascarilla.
17. Spirit of Nutmeg.
18. Henbane.
19. Carbonate of Magnesia.
20. Aloes.

This is empirical practice.[1]

"Empiricism is only tolerable because it is wielded by thoughtful men." There are thoughtful men among us, perhaps as many as in any other profession, and they deserve to be honoured. But such an example as the one just given, and which is a representative one, shows that empiricism, even in the hands of thoughtful men, is a poor and feeble thing. What must it be in the hands of those who *do not think*, but follow empirical routine? In England alone twenty thousand men are going their daily rounds visiting the sick, many with benevolent hearts, many with liberal hands, more benevolent and more liberal than they commonly receive credit for; but, alas, how many with empty heads! heads, that is to say, having nothing in them but a catalogue, more or less lengthy, of the *names* of diseases linked to another catalogue of poisonous drugs. . . . . "Plus, un petit clystère insinuatif, preparatif et remollient, pour ramollir, humecter et refraichir les entrailles de monsieur. Plus, dudit jour, un bon clystère detersif, composé avec catholicon double, rhubarbe, miel rosat, et autres, suivant l' ordonnance, pour balayer, laver, et nettoyer le bas-ventre de monsieur. Plus, une bonne médicine purgative et corroborative, composée de casse récente avec séné levantin, et autres, pour expulser et evacuer la bile de monsieur. Plus, un clystère carminatif, pour chasser les vents de monsieur. Plus, dudit jour, une potion anodine et astringente, *pour faire reposer monsieur*," — pour faire reposer monsieur! It will be granted that this satire is not even an exaggeration of the truth.

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[1] Perhaps it will be expected that it should be said what became of this patient. In six weeks he was well, with the exception of some swelled glands which, of course, could not subside in that time. This result will be accounted for in various ways, according to the bias of men's minds; some will say he got well from leaving off medicines,—no slight reproof to the physician who prescribed them;—others will believe that the *nux vomica* and *sulphur* given him wrought the cure; for myself I think both these causes contributed to his recovery.

Nature—scepticism. It is not surprising that the failure of dogmatic and speculative medicine to establish a true theory, and the poverty of empiricism, and the meagre success in actual practice of both, should have deprived some men of their faith in both the science and the art of healing. These are the medical sceptics of all ages.

The prevalence of scepticism among the learned men of the profession is no small difficulty and discouragement to those who are anxious to fulfil the duties of their calling, and to heal the sick in the best possible manner. The greatest modern historian of medicine, Kurt Sprengel, who with untiring industry has studied it from its origin down to the nineteenth century, and has filled nine volumes with the results of his researches, has arrived at this conclusion,—"*scepticism* in medicine is the top stone of the science, and it is the wisest part to regard all opinions with indifference, and to adopt none!" This talented and laborious German is thus driven by what he has seen of the confusion and opposition which every where prevails, to blank despair!

Nor are the vigorous intellects of France less unhappily circumstanced. Their able medical historian, P. V. Renouard, has travelled over the same ground, and has reached a goal scarcely less discouraging than Sprengel's. He asserts this, as the only reliable guide,—"those remedies which have cured one case of disease will cure all cases analogous to it." This is the old Babylonian and Egyptian routine; it leaves us the few remedies which chance has discovered, but supplies no means of increasing them. If we are thus driven back to the ancient temples, and to their sacred book, it will not be long before we are ready, in the blindness of ignorance, and the intolerance of prejudice, to put to death any who dare to depart from the beaten track.

Nor are our best known English teachers more encouraging. Sir John Forbes, "having been actively engaged in the practice of medicine for the long period of fifty years," leaves a book as a legacy, and the burden of it is this :—

> "Alas! it is hardly a legitimate ground for exultation that we can control and extinguish a few of the more trifling diseases, while nearly all the huge remaining mass of human maladies must be left to the chances and uncertainties of a treatment which is *neither precise in its indications, direct in its action, nor positive in its results.*"

This despairing scepticism of the learned has had its influence on the profession, and has led to the formation of a school called the "expectant." This school is much older on the continent than in England; its characteristic is reliance upon nature, or upon what is called the "*vis medicatrix naturæ.*" When a brother of mine was taken ill in Rome, now fifty years ago, a well known physician was sent for, and when he arrived, he carefully examined his patient, and gravely said to him, "Ah! drink barley water, and I will come again to-morrow and see what it turns to!" The French I think were the first to give this method a name; they called it "*La medicine expectante.*"

It is from this school we are learning with some precision what nature, as it is called, can do unaided by art, except as nursing and regimen can lend a helping hand. It has been ascertained that, in acute disease, the proportion of recoveries is greater than when active treatment is used. Still even under this curative power of nature, the per centage of deaths is considerable; there is an uneasy feeling in the minds of these practitioners, or rather lookers-on, and they are coming to the conviction that "*laisser faire*" is a better maxim for the guidance of commerce, than for the treating of disease, and that doing nothing cannot be the *ne plus ultra* of medicine.

This scepticism has also partially infected the lay public. Some educated people are now indifferent as to receiving any prescription of medicines when they consult their physician; they prefer direction as to travel, diet, exercise, and clothing; they think that medicines are generally useless. In the letter already quoted this loss of confidence is thus expressed:—

> "I think no one has yet exhausted, or even approached to exhausting the investigation of the curative power of nature. I am quite sure that in far the majority of cases the work has been done, not by the drugs which the physician has prescribed, but by the condition of air, temperature, diet, exercise, that he has ordered. I do not at all deny that in one case out of a hundred the drug has done the work, and that with-

out the drug nature would not have done it. But I doubt if the proportion is more than that."

This is the swing of the pendulum in the opposite direction. Too much has been expected from drugs; they have been used too much; the expectation has been disappointed; that which has often been the fate of single medicines is now the fate of them all, the belief in them is gone.

This mistake is as great as the old one, and will lead to evils as great. I will content myself by putting one before the minds of my worthy but sceptical friends.

They will fall into the hands of the surgeon. It is obvious that, from circumstances, it is not always possible to travel; and also, alas! severe illness *will come,* when exercise cannot be thought of, and when diet can do little to ward off painful or protracted suffering, or to diminish the danger of a fatal termination.

* * * *

"Let the head be shaved entirely, and have the patient brought near the right side of the bed; raise the head by a hard pillow, and put a towel round his neck to receive the blood; let an assistant keep his head steady; at the same time draw the scalp downwards in all directions, so as to strain the calvarium as much as possible; the scalp will divide with so much more ease. In this your own left hand will materially assist, by placing it at the upper and back part of the head; commence the incision between your thumb and forefinger, as far back as the lambdoidal suture; press the scalpel sufficiently down so as to divide the scalp entirely through at once; carry on the incision directly along the sagittal suture as far as the hair grows on the scalp, and which will cover the cicatrix after the issue is healed up. The length of the incision thus made will be, in the adult, about seven or eight inches; take care that the scalp be divided entirely and perfectly through, so that the edges of the incision will separate so far as to enable you to introduce a dossil of lint, rolled up hard, as thick as two fingers, and which should be well soaked in spirit of turpentine."

* * * *

The cases in which this painful and hazardous undertaking is recommended, be it observed, are *not surgical but medical;* they differ widely in character; they are inflammation of the brain, epilepsy, paralysis, delirium tremens, and fever. The operation has been performed many times, upon patients from *three years old* and upwards, by the surgeon who proposed it. The resistance made by friends of the patient is to be "overcome by remarking quietly that 'it is only intended to make an issue,' an insignificant trifle."

It is not many years since this operation was introduced; and now, to the scalpel there is added the actual cautery. The red-hot irons of the old surgeons, which it was believed had been discarded for ever, are now again taken in hand, with this difference only, they are made *white hot.*

To be cut and burnt after this fashion may be "insignificant trifles" in the estimation of enterprising surgeons; but patients and their friends will think them as bad as the former evils, when too much medicine was given by speculative physicians.

Physical Science—philosophy. Let me next notice a section of the medical teachers which is of modern origin, but which is now affecting to take the lead in medical affairs. These are the medical philosophers or men of science. They are talented, industrious, and aspiring. Professor Acland speaks of this school in these terms, "there never was an age when there were so many students, in the best sense, of biology and of medicine, actuated by a simple love of truth; and never a time when, as a class, they were so free from prejudice, so candid, and so patient."

I am willing to hope that this may become a true representation of the spirit of the age. I have been putting its truth to a practical test for some years, and am doing so still. Experience hitherto has not been re-assuring, but I shall rejoice if the Essays now offered to the notice of my profession are received in this candid and patient manner. Less cannot be expected from Dr. Acland himself than that he will set the example.

That the application of the collateral sciences to the improvement of medicine is a move in the right direction cannot be doubted. Animal chemistry is a noble pursuit; and advantages are also to be derived from the observation of the specific gravity of fluids; from the application of acoustics in the stethoscope; of optics in the ophthalmoscope and laryngoscope; and of thermotics in the thermometer.

Far be it from me to undervalue any of these sciences; they are lines of investigation worthy of being followed; but they can be of use to medicine only within their own proper limits. They may help in diagnosis, and they may now and then suggest a new remedy; but they can never teach a law of therapeutics. It is not in them to do this. On the contrary, they become hindrances and *ignes fatui* when they are lifted up out of their proper and subordinate sphere. The modern medical chemists especially err in this matter; they are like their predecessors the alchemists in the 16th century, who sought to transmute the baser metals into gold. The aim of both is an unattainable object; as that of children who plant stones, and expect trees to grow out of them.

That these sciences have failed as trustworthy guides in the treatment of disease is manifest both from the books which have been written under their dictation, and from the practice of the able men who have devoted themselves with assiduity to their cultivation.

As a specimen of the books one may be mentioned by Dr. Owen Rees on the *Diseases of the Kidney connected with Albuminous Urine*, (*Morbus Brightii.*) In this book, as in others by the same class of authors, the anatomy, the pathology, the chemical analysis, the symptoms, and the complications are carefully detailed, but the therapeutics are a failure. The remedies suggested are avowedly not specific, nor are they scientific; the old "indications" and "intentions" are perpetuated. For acute cases, *bleeding; jalap* and *cream of tartar* to purge; *antimony* to excite perspiration; *mercury*, but that it does so much harm; *digitalis* and *opium*. For chronic cases, *iron* and *elaterium;* the former to increase the red globules of the blood, the latter to purge away the dropsy. These remedies are fenced about with so many cautions and warnings that it is difficult to see how a "thoughtful man" can use them. "We are obliged," says Dr. Rees, "to have recourse to very active measures, which, though we are driven to them by necessity, must yet be used with the greatest care, for the reason that the secondary conditions *known to occur* during the progress of the disease are such as *will be greatly aggravated* by the constitutional effects of active and depletory treatment." We are to fear "producing serious mischief by inducing that watery condition of the blood which speedily assists the disease to a fatal termination." It may become "absolutely necessary to have recourse to the lancet," but "the difficulty of discriminating" when this may be done without placing "the patient in a most unfavourable position for recovery," and when bleeding will not "*especially tend to accelerate death*," is strongly insisted on.

Of antimony it is said, "We shall do well, if possible, to urge antimony as a remedy. This cannot always be done owing to the nausea induced."[1]

Of digitalis: "When discreetly exhibited there seems much apparent benefit from its use." "The dose should be small, however, and its effects on the pulse narrowly watched," "we so often have a morbid condition of the *heart* present."

Of opium: "We may occasionally use opium with great advantage;" "the dose should at first be small, and its effects must always be closely watched. This is necessary owing to the liability to *head* symptoms,

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[1] It would be a good service if any one would re-prove antimony, specially with regard to its action on the kidneys. It is probable (from the old provings) that albuminuria would be one of its effects, and this would shew it to be a specific for one stage of Bright's disease; and when given in small doses, there would not be the difficulty Dr. Rees experiences arising from nausea.

(apoplexy,) which characterises this disease, an evil occasionally arising in a most unexpected manner."

Of mercury: "We shall do well to avoid mercurials entirely." "Even a single purgative containing calomel has been known to induce dangerous salivation."

There is to be no *direct* action upon the diseased organ; "the state of the kidney must never be lost sight of, and every thing tending to determine to that organ, either in the form of medicines or articles of diet, should be studiously avoided."

The only remedy suggested by science is iron, which is "exhibited with a view of supplying red corpuscles to the blood." But in albuminuria—the disease under consideration—the loss is not of *red* but of *white* particles; it is albumen which needs to be replaced.

All who are well acquainted with modern medical literature will acknowledge that this is a fair instance of the failure of science in books. The following cases may be taken as fair examples of its failure in practice.

In May, 1858, I was consulted by an elderly lady who was seriously ill. The opinion was given that she had an abscess in the right kidney; that much hope of her recovery could not be held out; but I should be happy to use such means as were in my power. In consequence of this opinion her friends took her to London. She was seen by Dr. Bence Jones, who was requested to write his diagnosis. He wrote "abscess of the kidney," and prescribed *effervescing salines* to be taken when feverish, *quinine* for debility, to be taken when not feverish, and *jalapine* to be taken when the quinine confined the bowels. It will be observed that none of these prescriptions are the suggestion of science. He owned he had no remedy, and he anticipated a fatal result. The patient was brought back to me. At this time the abscess was discharging, by the bladder, immense quantities of pus. I gave her *lycopodium*. The discharge of pus was considerable for some weeks, but gradually diminished; and in the beginning of September it had disappeared, the patient was well, and remained so. She spent the summer of 1859 in a succession of visits to friends in Ireland, and throughout the year 1860 continued well.

In November, 1865, a young lady was taken to London to another philosopher physician, her friends being greatly alarmed at her condition. Their fears were confirmed by this consultation. The physician wrote as follows to the surgeon in the country:—"The urine is highly coagulable, and every symptom characteristic of *Bright's disease* is present in her case." Among these symptoms was extensive dropsy of the body and lower limbs. *Acetate of ammonia* with *wine of iron* and *saffron*, and *cream of tartar* with *jalap* and *capsicum* were prescribed on the 13th November, 1865. In January, 1866, she was brought to me in the state above described, but getting worse. The quantity of albumen was great, and the dropsical swelling of the body and limbs formidable; it was painful to look at her pallid face. *Titanium* was given her. Improvement began from that time, and in October she was to her own feelings, and to all appearance, well; the dropsy had entirely disappeared. A small quantity of albumen remained, but she considered herself not needing further treatment, and I did not see her for some time. During the severe weather of the following winter there was some return of the symptoms. *Iron* was given her, but this had no effect. *Titanium* was again had recourse to, and in a week there was already great improvement; the dropsy again gradually disappeared, and the albumen which had increased was again much reduced in quantity. As I have not seen her since May, 1867, I cannot say that the albumen is no longer present, but in August she wrote to say that she was well.

The conclusion arrived at with respect to the philosophers is that they are in much the same predicament as the dogmatists, the empirics, and the sceptics, whose circumstances we have already reviewed.

Thus it appears that the majority of medical men are content with an unthinking routine; that among those who try to think, some are dogmatists lost in speculation; some are empirics holding by nothing but a rope of sand; some are sceptics without belief in their art; and some are philosophers vainly expecting to learn from non-medical sciences what these can never teach.

The great fact which has been the permanent barrier to progress in therapeutics remains to this day: —*a direct connection between diseases and their remedies has not been discovered in any of these schools of medicine.*

A principle—homœopathy. There is yet another section of the medical faculty which we have not noticed. These have formed a new school professing to have found a principle or law of therapeutics.

By a principle is meant a general fact discovered by induction from a number of particular facts. The most eminent example of this is the law of gravitation discovered by Sir Isaac Newton.

This general fact or principle has been promulgated in a peculiar form by Samuel Hahnemann; the basis of his system is the action of drugs taken in health; and the rule or law is to give the drugs as remedies for the *symptoms* of disease similar to those which the drugs themselves produce in health. "*Similia similibus curantur*" is the motto expressing the method of Hahnemann, and its opposition to the methods of the old school, expressed by the motto "*contraria contrariis curantur.*"

An investigation of this method will be recapitulated in the second part of this Essay, and should the conclusions arrived at be confirmed by future observations and experiments, they will appear to be the "missing link" between diseases and drugs; they will exhibit that direct connection between diseases and their remedies which exists in nature, but which had not been previously known or taught.

Ever since there has been a profession of medicine, men have anxiously yearned after *a dogma*, a rule, or principle, by which the treatment of the sick should be theoretically governed. All former attempts to discover this have failed. Hahnemann has made another effort, and even if it be viewed hypothetically, as a door opened for a new path of research, most assuredly it has already effected more than any preceding hypothesis, and it promises, if loyally, and at the same time critically dealt with, to result in such a "reasonable theory" as all may adopt with satisfaction.

The method is still youthful, but the facts brought to light by practical trials in the hands of educated physicians are so numerous and instructive that there is already an amount of *experience* which reduces into comparative insignificance the former experience of ages.

This mode of practice, moreover, avails itself of the *vis medicatrix naturæ* to the full extent consistent with the acknowledgment that art also has a duty to perform.

It opens a wide door to all the collateral branches of science, and gladly accepts any assistance which they can tender.

During about fifteen years previous to the year 1850, several physicians in England, talented, well educated, and zealous men, had professed themselves disciples of the German medical reformer, and were putting forth a claim to superior success in the treatment of the sick.

To investigate this new method seemed to me to be a duty. The subject presented itself as one of the deepest interest alike to the profession and to the public. I saw that the investigation of it was spurned by those in authority, and that to undertake it would place me in a painful position towards my medical friends and colleagues, and would also involve the sacrifice of the prospects then before me. But I determined to perform it in the best manner I could, and, from time to time, to publish the results.

I have endeavoured to compel homœopathy "to give an account of itself," as I had before done with other systems of medicine; and the attention of my profession to the results of seventeen years of research, is now earnestly requested.

The first labour was to separate, in Hahnemann's system, what was found to be supported by observation from all that was destitute of that foundation—the former to be adopted, the latter to be be rejected; and the next, to attempt to advance further in the path of investigation so begun, in the hope that, ultimately, medicine may be placed on that "more scientific basis" which Dr. Stokes and many others are longing for.

The Principle separated from the Dose.

After two years of careful study and many experiments, the first Essay was published in 1852. In this an attempt was made to explain what the new system professes to be. Several things were mentioned *which it is not*, and then *what it is*, or claims to be considered. It was asserted that homœopathy *is not an infinitesimal dose, but a general fact or principle* which is to guide our therapeutics.

The infinitesimal dose has received attention during the course of the Essays, but it has always been treated as a separate and subordinate enquiry. It is remarked, in the first Essay, that "homœopathy as a principle was discovered by experiments made with appreciable doses, and a physician may be a true homœopathist though he never prescribe any other."

This is a point of much importance, and deserves further illustration; but instead of giving additional cases of my own, some shall be recorded which have been treated by another hand. I may remark that, from time to time, medical men write to me to ask information and guidance on their commencing a practical trial of the new method, and the following cases, which will be read with great interest, have been sent to me in this manner.

The writer, in his first letter, says, "I have been a medical practitioner for sixteen years, and, like most others, I fear, who have been for such a length of time acquainted with and much employed in the practice of medicine, have been often, very often, much disappointed at its uncertainties, not to use a stronger term. . . . I am anxious to go into the subject thoroughly, being quite satisfied by a recent re-perusal of your 'Investigation' that I have left, and am leaving a great duty unfulfilled, so long as I do not give homœopathy a patient practical trial."

In June and Sept., 1866, I received from this physician "reports of cases," from which the following are extracts :—

"*Arsenic.*—I have frequently used arsenic in skin affections, both before and since reading your 'Investigation,' but never before perusing your book should I have thought of using this medicine in the treatment of stomach and bowel complaints. Since then I have used it frequently in what may be called chronic gastritis, or congestion of the stomach, with very marked good results ; and of one case, which made a great impression on my mind, I cannot forbear giving you a short history.

"In January, 1865, I was called to attend a lady about fourteen miles from my residence. I found her in the eighth month of pregnancy, suffering from great pain in the epigastrium much aggravated by pressure, constant vomiting (nothing being retained), accompanied with an apthous state of throat, tongue, cheeks and lips, from which, and from the gums, which were separated from the teeth (all the latter being quite loose), there was a discharge of tough fetid mucus. Such having been her condition for about *three months* before I saw her. She was, of course, much exhausted and emaciated, and was subject to fainting fits on raising the head or on any exertion, the pulse being, at the time I first saw her, almost imperceptible. I was at a great loss how to deal with such a case, the poor woman looking more like death than life ; but on consideration, I ventured to prescribe one drop of *Fowler's solution* thrice daily. She had one dose on the night I visited her. I was summoned by telegraph the following morning to see her, and on visiting her found she had had 'a most dreadful night,' with pain in the bowels, which was attributed to the medicine, so, of course, she had taken only one drop. I found her, as I thought, somewhat better, and got her friends and herself to consent that the medicine should be continued in half doses (half a drop of Fowler to each dose), morning and evening, in a little thin arrowroot. She vomited no more from this time, and, on visiting her in five days afterwards, I found her sitting upon a couch, able to be up for a few hours, and to take food in small quantities often repeated with relish, all of which she retained without pain or difficulty. Tongue clean, cheeks and lips healthy, as well as the gums, and the teeth were again firm. I may mention that she had never taken mercury in any form. In ten days after this, or rather over a fortnight from my first visit, she gave birth to a healthy male child, which with the mother did remarkably well; she is now, and has been ever since, quite well.

"Had labour taken place at the time I first visited her, I cannot think she could have got over that ordeal in safety.

"I suppose the 'dreadful night' after the first dose of the medicine was owing to the dose being too large.

"Within the last few years I have often used arsenic, (always Fowler's solution), in a sort of gastritis in children, and within the last month I have treated four cases of such, (the youngest being eight weeks and the oldest three years of age,) the chief symptoms being vomiting, great weakness, and feverishness, accompanied by loaded tongue, (which was also somewhat swollen,) with red patches all round the edge, the centres of which were raised into blisters, the cheeks and lips being similarly affected, so that the child could not use the tongue or lips in sucking, nor without indications of pain, and there was evidently pain in swallowing. All these cases, and many others, have done well under the use of arsenic, and so quickly as to be very remarkable.

"*Tartar Emetic.*—I have frequently used this in pneumonia with the best results, the dose being about the $\frac{1}{40}$ of a grain for adults.

"A week ago I was called to see an infant, five weeks old, suffering from severe inflammatory action of the lungs. When I first saw the child I thought it beyond medicine—in short, that it would be dead in an hour or two; it was livid, almost pulseless, a little flicker being all that could be felt, and only now and then, respirations about 45 per minute; it was altogether as helpless-looking an object as one could see. I happened to have *tartarized antimony* by me, so I took about half a grain, which I dissolved in four ounces of water, with instructions to give a small teaspoonful every four hours. I heard of the child's improvement the following morning, after three doses of the medicine, and the day after that (about thirty-eight hours after my first visit) I found the little thing almost well, and able again to take the breast; and I am glad to say it is now quite well.

"*Copper.*—Within the last month I have used the *sulphate of copper*, ($\frac{1}{12}$ of a grain every six hours), in a case of what I may call, 'crampy sciatica,' with the result of giving the most complete relief in the course of twelve hours, or after the third dose. This man has often had attacks of the same kind, which in some instances lasted for weeks.

"*Ipecacuanha.*—I have used this frequently in hæmorrhages from the lungs, and with marked good effects.

"*Cantharides.*—I have often use this medicine in diseases of the bladder with the best results.

"*Bi-chloride of Mercury.*—Since perusing your 'Investigation' I have frequently used this medicine in *dysentery*, both in young and old, with excellent results. I have also used it in ulcerated sore-throats—several cases. I am at present (June 1866) using it in two cases of scrofulous enlargement of the ends of the long bones, in one the humerus, and in the other the femur; and I think the former already shows improvement. The doses are $\frac{1}{60}$ of a grain.[1]

"*Belladonna.*—I have used this with the best results in scarlatina, sore-throats, headaches, hydrocephalus, and erysipelas. In hydrocephalus I have seen no cures from its use, the disease being of a tubercular nature in all the cases that I have seen; but it appeared to me, in some cases, to possess great power in controlling and preventing the convulsions which give so much distress in that disease, and are so painful to witness. In two cases it arrested such fits altogether, so far as I could judge. I have had no opportunity of testing its power in this disease, except in the tubercular variety, which I fear may be considered, without exception, a fatal disease.[2]

"In erysipelas I have used it in only two cases, and that within the last six weeks; one of them, a very severe case, commencing in the right eyelid from a small wound caused by a piece of percussion-cap striking the part while the gentleman was rifle-shooting, on a cold day with a strong east wind. The attack was very severe, extending all over the face, head, neck, chest, as low as the mammæ, before and behind, and the upper extremities. What was strange to me in the case was that little or no vesication took place over the affected parts. In less than three weeks the gentleman was able for his duties again, and continues quite well.

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[1] Note written in August 1867. "The case of the disease in the humerus is now quite well. The other case suppurated, but ultimately under the same treatment healed up, and the girl is now strong and healthy."

[2] We have better remedies than *belladonna* for these cases.

"The second case of erysipelas, also of the head and face—a lady who had had three previous attacks, the last about two years ago, was seized with rigor, and in a few hours the heat, redness, and swelling commenced on the forehead and nose. I found her, the next day, with the disease generally over the face, and extending to the ears, temples, and over the scalp. She had small doses of sol. ext. bell. (about two grains in six ounces of water), and in three days the disease was almost gone, and in three more she was quite well, had it not been for the desquamation of the cuticle on the forehead and nose.

"*Aconite.*—I have used aconite in two cases of inflammatory croup of a very violent nature, with the result that both cases did well; being the only recoveries from this disease—pure *inflammatory croup*—that I have met with, and am sorry to say I have seen a good many lost.

"*Lead.*—A lady about fifty, who for *a year and a half* had suffered from numbness and want of power in the muscles of the forearm. I saw her about the middle of July 1866, when I immediately prescribed for her small doses ($\frac{1}{12}$ of a grain) of the acetate of lead, night and morning, which she took for a week, when the numbness had all but disappeared, but the power of muscle was not improved. She continued for another fortnight taking the plumbum only at night, when I found her better; and in the course of another fortnight she informed me that she was quite well, but that she had been frightfully annoyed with the heat and itching of the affected arm. I ordered the medicine to be discontinued, and I understand she is now (September, 1866) not suffering in any way. This lady had been *seven times* blistered at the nape of the neck, and had otherwise been most heroically treated before I saw her, which I did when she was threatened with a seton in the neck for the rest of her life."[1]

All these, and many other cases, have been treated by this able physician with small quantities of the ordinary preparations of the Pharmacopœia. He is putting the *principle* of homœopathy to a trial in his own practice, and separating it from the question of the infinitesimal dose. I cannot but think that every physician ought to be found doing the same thing. If medical men are so circumstanced that they cannot conveniently do otherwise, let them use small doses of their own drugs; where there is no hindrance it is better to obtain them from a homœopathic chemist, because the doses are more manageable, and the preparations are more reliable and more uniform in strength.

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[1] For a case corresponding in some measure to this, see Essay IX, on *The Small Dose.*

Hahnemann discovered the principle of rule, as expressed by him in the formula "*similia similibus curantur*," by experiments, in health and in disease, with common drugs in ordinary doses. Having afterwards found, as he thought, that infinitesimal doses acted better than larger ones, he, very unwisely I think, tied the principle to the foot of the dose. This he did in language so arbitrary as to set aside the foundation upon which his whole system professedly rested, namely experience.

I heard no murmurings against these "words of the master" in 1850, but I took the liberty to protest against them for myself. There are stlll some practitioners who think homœopathy is inseparably united with the infinitesimal dose, but the majority now agree with me in asserting that there is no necessary connection between the two, that the principle is the bond of union in the new school, and that the dose is "an open question."

It is now well understood that homœopathy contains two distinct branches of enquiry:—the principle or rule by which medicines are to be prescribed; and the doses in which they are to be given.

But it is still the practice of the opponents of the new method to confound these two branches together; and in this manner, on the plea that the infinitesimal dose shocks the common sense of the profession, the whole subject has been covered with ridicule, and its advocates with contempt. Such conduct is inconsistent with science, and is unworthy of educated and honest men.

Each division of the subject claims to be investigated by itself, and medical men are recommended to follow the example of the physician whose cases have just been reported. Until their minds are settled as to the principle, the consideration of the small dose may be postponed.

The Principle restricted to Drugs.

The future historian of medicine will see with surprise and regret a blot upon the pages devoted to the nineteenth century. He will be compelled to record the fact, for it is too conspicuous to be passed over, that the profession as a body condemned homœopathy without examination.

This examination might have been made in two ways: Hahnemann's books might have been read and fairly criticised; or the doctrine taught by him might have been put to a practical test at the bedside.

If only the first, the reading and the criticism, had been done, there would have been a show of reason in rejecting the system.

Hahnemann had a visionary, unscientific mind, easily led away by loose analogies and imaginary resemblances; and consequently his writings contain uncritical observations, unproved assertions, unsound conclusions, and hasty generalisations. Moreover, even in his principal work, the *Organon of Medicine*, he cannot refrain from applying abusive epithets to his professional brethren, or from ascribing base motives to their conduct.

From the first all this has been acknowledged, and in the course of the Essays it has been shown how he has applied the principle of homœopathy to matters with which it has no connection, how he has obscured its truth and diminished its value by the hypothetical language in which he has clothed it, and how he has undermined confidence in his statements by asserting conjectures and even contradictions of himself with the same positiveness and *naïveté* that he does things which may be proved. So that if the question were one which could be settled by reading his books, I should have gone along with those who, after this examination, had agreed in rejecting his system altogether.

Homœopathy, as represented by Hahnemann, is vague, indefinite, and unproved. But the investigation is one which rests on *evidence*, not on logic; on *observation*, not on argument; its only real test is a practical trial.

Such a trial in my own practice has convinced me, as I believe it has convinced every one who has made it fairly, that there is something in homœopathy, or rather something underlying it, which, when laid hold of and separated from all which has disfigured and concealed it, is a great discovery in medicine and a great benefit to mankind.

The search for this underlying truth was begun seventeen years ago, and it has never been intermitted. The progress made may have been slow and "rather the offspring of time than of wit;" but it has been progress, and its successive steps have been honestly and I hope modestly placed, as they have been taken, before my contemporaries. In this summary of them the first of these steps has been explained, and we now proceed to the second:—the limitation of the principle.

Nothing can be more disturbing to a sober mind than the loose manner in which Hahnemann explains and applies the doctrine of "*similia similibus curantur.*" It soon became evident to me that unless this principle could be reduced to a more distinct and substantial form, it could not retain more than a very partial and temporary hold upon "thoughtful men." Three Essays were devoted to this part of the enquiry, and to these my readers are referred for details. The nature of a principle, and how this therapeutic one has its limits with respect both to diseases and to remedies is shown in them.

Hahnemann first endeavours to prove that nature teaches us homœopathy by causing *similar diseases to cure each other;* but he totally fails in being able to bring forward one tolerable example. He tries to get out of this dilemma by remarking with singular simplicity, "We should have been able to meet with many more true natural homœopathic cases of this kind, if nature had not been so deficient in homœopathic auxiliary diseases!" He proceeds thus: "mighty nature herself has, as we see, at her command, as instruments for effecting homœopathic cures, little more than the fixed miasmatic diseases,—the itch, measles and small-pox! Which, as curative agents, are either (namely small-pox and measles) more dangerous to life, and of a more frightful character than the disease they are to cure; or of such a kind (like the itch) that after they have effected the cure, they themselves require curing, in order to be eradicated in their turn; both circumstances that make their employment as homœopathic remedial agents difficult, uncertain, and dangerous. And how few diseases are there to which man is subject, that find their analogous remedial agent in small-pox, measles and itch!" To propose to inoculate with small-pox as nature's remedy for an inflamed eye, would be as unreasonable as to prescribe submersion for some minutes as a cure for a cold caught by getting wet; without doubt both would be "dangerous."

In the Essays referred to it will be seen that Hahnemann also applied the principle of homœopathy to the action of *mental emotions* upon each other; but to prove that it does so apply there is neither analogy nor evidence.

He would also have us believe that the effects on the human body of the physical forces of inanimate nature, —heat, light, electricity, and magnetism—are governed by the same law.

I have examined (in the Essays) each of these forces in detail, and end with this remark: "For myself, I cannot but conclude that Hahnemann is quite in error when he supposes that the homœopathic law can, with any show of propriety, be applied to the action of the physical influence of any of the so-called imponderable agents."

Only *drugs* remain; but as regard these there is sufficient evidence to compel the admission that "*a relation exists in nature* between the effects of material poisons on the healthy frame, and the effects of the same poisons on diseases resembling those which they are capable of producing." (Essay VI.)

In the same Essay, Hahnemann's definition of the principle is rejected, and the following is suggested in its place:—

"Every material poison gaining admission into the healthy body has a tendency to produce a diseased condition, (evidenced by symptoms or physical signs,) more or less peculiar to itself; and every such poison is the most appropriate remedy for a similar diseased condition which has arisen from other causes."

Again, (in the first Essay on the *Principle*,) the same conclusion is stated in these words:—

"That there is a natural relation between the disease-producing and the disease-healing powers of drugs is, I think, clearly made out."

This criticism on the wide application of the principle of homœopathy by Hahnemann was strongly objected to by his school on its first appearance; but the limitation to drug action as then suggested is now generally received.

The Local Action of Drugs.

A diseased condition, whether arising from drugs or from other causes, may be supposed to have been produced either by a general or by a local action.

Hahnemann looked upon all diseases as derangements of the *vital force* or life of the body; and he asserts that the action of drugs is also upon this force or life. This view implies a *general action* both by morbid influences and by drugs.

The practical consequences of this doctrine are seen in his *Materia Medica*, in which he records the effects of drugs taken in health, or the physiological action of medicines. In these "provings" each drug has symptoms attached to it connected with every organ of the body.

I do not adopt this view. It is simply a conjecture that "in disease the vital force only is primarily morbidly deranged," (*Organon*); a conjecture like those made by the Dogmatists, against which Hahnemann declaims so fiercely as idle dreams. Not only does it not rest upon any facts which prove it, but, as it appears to me, it is incapable of proof.

That each drug acts in the same manner, and so produces symptoms or effects over the whole body, is, I think, also a mistake.

It will be useful to reflect further on this question, with reference both to disease and to drugs.

Cullen, whose Nosology was the best of the last century, divides all diseases into four classes :—Pyrexiæ, Neuroses, Cachexiæ, Locales. The last would seem to imply from its name, that the rest are general and not local diseases. But the names of the others are sufficient to refute this inference. Pyrexiæ or fevers are diseases of the blood and of its circulation. Neuroses are disturbances of the nervous system. Cachexiæ a vitiated condition of the fluids.

Mason Good has given the best Nosology of the present century; he arranges all diseases thus :—

Cœliaca—diseases of the digestive function.
Pneumatica—diseases of the respiratory function.
Hæmatica—diseases of the sanguineous function.
Neurotica—diseases of the nervous function.
Genetica—diseases of the reproductive function.
Eccritica—diseases of the excernent function.

Now these, and all nosological arrangements, are founded upon the fact that the phenomena of diseases are *local;* and this fact proves the *local action* of their causes.

It is true I have often heard patients say, "I am ill all over!" And no doubt they feel so. But physicians by careful enquiry can separate such general malaise into local ailments; just as astronomers, by the telescope, can resolve nebulæ into separate stars.

Diseases, then, in their causes, origin and seat, are local. That the same may be said of the action of drugs is, I think, equally certain.

As works on Nosology are founded on the local character of diseases, so treatises on Materia Medica and Pharmacology are based on the local action of drugs.

We have no writers of greater eminence on these subjects than Pereira and Christison.

Pereira, in his *Materia Medica*, gives, among others, the following arrangement of drugs, which it will be seen corresponds, except in the order in which they are given, with Dr. Mason Good's classification of diseases :—

α. Acting on the blood	Hæmatica.
β. Acting on the respiratory organs	Pneumatica.
γ. Acting on the nervous system	Neurotica.
δ. Acting on the digestive organs	Cœliaca.
ε. Acting on the excernent system	Eccritica.
ζ. Acting on the reproductive organs	Genetica.

All these are obviously local actions.

Christison is decided in taking the same view. In a former Essay part of a sentence is quoted from him on this question. His words so exactly express my notion that the whole passage shall be given :—

> "*Of the organs affected by the remote action of poisons.*— Having now taken a general view of the mode in which poisons act on distant parts, I shall next consider what organs are thus brought under their operation. Poisons have been often, but erroneously, said to affect remotely the general system. A few of them, such as arsenic and mercury, do indeed appear to affect very many organs of the body. But by much the larger proportion seem, on the con-

trary, to act on one or more organs only, not on the general system. . . . Some act chiefly by enfeebling or paralysing the *heart*, others principally by obstructing the *pulmonary capillaries*, others by obstructing the *capillaries of the general system*, others by stimulating or depressing the functions of the *brain* or of the spinal chord, others by irritating the *alimentary canal*, others by stimulating one or another of the *glandular organs*, such as the *salivary glands*, the *liver*, the *kidneys*, or the *lymphatic glands*."

Christison here speaks of "poisons;" but what he says of them is true of all drugs, whether they be called poisons or medicines; for "medicines," as was said by Linnæus, "differ from poisons not in their nature, but their dose."

It may seem unnecessary to give instances of the appropriation of individual drugs by particular organs, inasmuch as every drug and every organ are examples. Nevertheless, it may be useful to some minds to have the fact thus distinctly exhibited. Half-a-dozen well-known metals from the mineral kingdom, and as many plants from the vegetable kingdom, shall therefore be mentioned as illustrations:—

Gold acts on the brain and the bones.

Silver on the joints, their ligaments and cartilages.

Copper on the muscles, producing cramps and convulsions.

Lead on the muscles, producing paralysis.

Antimony on the stomach, bowels and lungs.

Bismuth on the spinal chord, heart and alimentary canal.

Opium acts on the brain—the venous circulation.

Belladonna on the brain—the arterial circulation.

Nux vomica on the spinal chord.

Aconite on the heart and arterial circulation.

Digitalis on the heart and kidneys.

Aloes on the rectum.[1]

Some drugs (especially mercury) have been given in such large quantities, and the giving of them persevered in for such a long time, that it may be supposed that the organs which have a specific relation to them have been more than saturated by them, so that the overflowings have found their way into other organs, producing further mischief and strong natural efforts to expel them.

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[1] It is not meant that these are all the organs acted upon by the twelve drugs here named.

Other drugs appear to act more generally because they are blood poisons, such as secale, sumach, &c.; others because they have a profound action upon the ganglionic system of nerves and vegetative life, as sulphur, lime, &c.

The remarkable action of bichromate of potash on the septum of the nose, through which it bores a hole; of cantharides on the bladder; of ruta on the wrist; and of many other drugs on special organs might be dwelt upon; but the general fact seems to me to be so obvious, that I cannot suppose a larger number of individual examples can be required.

It is concluded therefore, that the action of drugs upon the human body, whether taken in health or in disease, is *local.*

Organs the Seat of Symptoms.

Another step next presented itself. Having satisfied myself that the investigation of the principle of homœopathy is limited to the action of drugs, and that this action is local, the next duty was to enquire if a better application and consequently a better definition of the principle could be found.

It is well known that Hahnemann insists upon *symptoms* as the sole object of attention. With him "the disease consists only of the *totality of the symptoms.*" A similar totality of symptoms is to be searched for among the provings of the drugs in health, and the drug under which all these symptoms can be found, is the best medicine the patient can have. Hahnemann says he "takes note of nothing in every individual disease except the changes in the health of the body and of the mind (the symptoms), which can be perceived externally by means of the senses."

It will not be denied that this is a superficial view, but it is one still very earnestly contended for by many homœopathists. A distinguished author "*severely censures* those practitioners who attempt to treat their patients in accordance with the general and pathological clinical indications, instead of adhering strictly to the 'totality of the symptoms.'"

I remember being present, now more than forty years ago, during a conversation between two elderly medical men, great practical observers and eminent men in their day, which concluded with these words: "After all, we must generally be content to prescribe for symptoms." This made a deep impression on my mind at the time, and turned the suspicion I already entertained into a conviction of the imperfection of the art of healing. If we are not to look beyond the outward sign, how often must we be misled! Well might Hippocrates exclaim that he "would give great praise to the physician whose mistakes are small."

As opportunities for observation increased, I found the prescribers for symptoms were common; while those who were not content with such a superficial mode of practice, but who endeavoured by reasoning on the phenomena to penetrate into the mystery of disease and to guess at its nature, were soon lost in a bewildering labyrinth.

On meeting with Hahnemann I found the symptom practice, which hitherto medical men had scarcely acknowledged even to themselves, openly defended and boasted of as an essential part of the only true method.

If the alternative were this,—either adopt one of the many hypotheses upon which a method of treatment has been based, which hypotheses may be as beautiful but certainly are as unsubstantial as mountains of clouds; or be content to prescribe for symptoms; then I grant that my two old friends, and Hahnemann, and those who follow him, sit on the best horn of the dilemma. The experience of three thousand years has rendered hopeless the attempt to discover the inner nature of diseases, and has justified the inference that a pathology of *this* kind can never be a safe guide to therapeutics.

But there is a third path which, while it cannot be objected to as superficial, cannot, on the other hand, be condemned as speculative and hypothetical. By this path a search may be made after the *seat* of diseases—the organs in which the symptoms have their origin. For symptoms are outward signs of something signified within. We may not be able to find out *what* that something is, but we may learn *where* it is, and that it is a step beyond the sign.

I could not but try to learn this. Speculation as to what diseases are, has long been a wardrobe to furnish to those who enter into it a cap and bells, and I have felt no inclination to follow them. But to ascertain the seat of the symptoms seems practicable, because it admits of being enquired into as a *fact*.

This then is the step which homœopathists are recommended to take. It will be real progress. It will preserve the new school from the danger which threatens it of falling into *routine;* and when it is taken the mine of medical science will again resound with axes and hammers.

If it be objected that there are many cases in which we cannot find the seat of the symptoms, it is replied that this is more than the objector knows till he has tried; but it is admitted that till we have found this out, there is no better way of prescribing than for the symptoms themselves. Our present ignorance ought to stimulate exertion, not to stifle it. Already we know the seats of some symptoms; we must labour till we know the seats of them all.

This enquiry into the seat of symptoms is rendered possible and useful by two facts; the one, that *diseases have a local habitation*, the other that *drugs have a local action.*

That diseases are not merely derangements of the vital principle, but that they affect special organs or constituent parts of the body, and so are local, and that drugs act locally also, has, I think, been sufficiently proved in this and former Essays; and I have no doubt will in due time be generally accepted as true.

The organs which are affected by different diseases must be discovered by observations on the sick.

The organs which are affected by different drugs must be discovered by experiments on the healthy.

By these observations and experiments the natural connection between diseases and drugs is made known. This is the "missing link." From this knowledge a therapeutic rule, based on nature, is possible and may be thus expressed :—

Drugs to be remedies must affect the same organs as the disease affects.

This is *Organopathy.* It has for its foundation not merely the resemblance of the symptoms in the disease and in the drug, but the identity of their seat.

Among the advantages of this view over that of Hahnemann's are the following :—

It is more definite. The principle, as expressed by Hahnemann (*similia similibus*, &c.), is necessarily indefinite, for resemblance admits of degrees. The greater the similarity, says Hahnemann, the greater the homœopathicity of the remedy, and the smaller is the dose that is required. I believe this is true ; but then it implies that there is less and less similarity, and a less and less homœopathicity ; and who shall say where similarity ends and difference begins ?

These considerations show that, admitting Hahnemann's proposition to contain a truth, it can be received only *pro tempore*, as a transitional expression of the truth it contains. There is *primâ facie* evidence in support of it sufficient to demand a trial. After such a trial, anxiously and perseveringly carried on, my judgment is a definite one :—Look at the organ which is diseased, and seek a drug, as a remedy, which is known to be appropriated by, or to act upon that organ.

It recognises local action. In Hahnemann's *Materia Medica Pura*, as it has been already remarked, symptoms are put down as belonging to every organ, and produced by every drug. He has overlooked this very obvious property of drugs, and has attributed to them a sort of general or universal action. It seems to me impossible to prescribe medicines at all, either according to the practice of the old school or to that of the new, except by taking advantage of the partial or local effects produced by all drugs.

It turns diagnosis to better account. A physician cannot perform his duty, in the examination of a patient, unless he strive to obtain a distinct notion of the situation and extent of the malady. Without a careful diagnosis he cannot give a probable prognosis. The friends of every sick person urgently desire a prognosis; it is due to them to be told the probable issue of the illness. Now, if the therapeutic rule be accepted in the form here given to it, a good diagnosis answers an additional purpose, not less important than the first—it becomes the true guide in the choice of the remedy.

It helps to remove a difficulty. It is well known that many symptoms have opposites to them; and in the provings of drugs which we have at present, these symptoms and their opposites belong to all the more powerful medicines. This fact is necessarily perplexing to those who wish to select a remedy according to the rule "*similia similibus*," &c. This perplexity almost disappears when we adopt the view now proposed.

It prevents the accumulation of useless symptoms. This accumulation of symptoms is a growing evil. Already many drugs have more than a thousand symptoms attached to them in the provings; these no memory can retain. Every new experiment adds to this number, and increases the labour of prescribing, and the perplexity attending the selection of a remedy. On the plan now recommended, every proving which decides the locality of the action of a drug, is a definite gain; hundreds of recorded symptoms may be blotted out as useless; and, to the medical man skilled in pathology and diagnosis, the toil and difficulty of prescribing is greatly diminished.

It is a step in advance. The observations already made are a sufficient proof of this. All who take the step will be conscious of real progress,—a progress so real, that none will deny it but those who, from whatever motive, refuse to take it.

Such is the method I have been led to adopt. Such also are the grounds upon which it rests, and some of the advantages which recommend it. A few remarks on cases which present little more than the commonest symptoms may be offered in illustration.

Cases in which nausea and vomiting, with a consequent loss of appetite and strength, are the only symptoms, are common; such symptoms are also produced by a numerous class of drugs; so that, if the selection of the remedy is to be made from a simple comparison of the symptoms, it must become either a matter of routine or a matter of chance. But if an endeavour be made to discover the organ from the disturbance of which these common symptoms proceed, something may be done which will be much more satisfactory. For example, it may be ascertained that the seat of the ailment is in the mind; or in the brain; or in the spine; or in the uterus; or in some other organ of the body; or it may be in the stomach itself. In this way the indication for *ignatia;* or *belladonna;* or *nux vomica;* or *sepia;* or *ipecacuanha;* or some other drug, may become very plain.

In like manner, a headache, or a palpitation of the heart, or a pain in the shoulder-blade, needs a pathological investigation, before we can fix with satisfaction upon the remedy.

Again, it is well known that *coughs* are very various. It has been said that there is no remedy for a cough. A principal reason why coughs are thought incurable is that the seats of the irritation which causes them are different, and often difficult to discover.

Sometimes coughs have their origin in the stomach; these I have repeatedly seen cured in a few minutes by a dose of *pulsatilla*. Other coughs originate in the liver; these, after "cough medicines" have entirely failed, are often cured by *mercurius*. There are also throat coughs; and laryngeal coughs; and tracheal coughs; and bronchial coughs; and lung coughs; and coughs from affections of other organs still. Some of these are really incurable in the present state of our knowledge, particularly when the cause is tubercle or cancer in the lungs; and some, though not incurable, are necessarily tedious, from the mere extent of the bronchial or other affection; the rest are cured or not, just as the physician discovers or not, the organ where the irritation exists, and selects, or not, the drug for which that organ has a specific or elective affinity.

In 1860 I was consulted by a married lady who had a chronic dry cough, being otherwise in excellent health. The cough had followed an attack of hooping-cough in 1855; it was spasmodic, and the fits were excessively violent at times, but did not resemble hooping-cough at all. Many doctors had been consulted during the five years, and all had failed even to relieve the cough. I could not discover the local origin of the irritation; several remedies were tried, as if firing shots without a mark, and I failed also. I do not know what further means have been tried, but the cough has continued seven years longer.

In 1866 Miss —— consulted me for a cough which had troubled her for fifteen years, which was more than half her life. She described it as a tickle in the throat which produced a dry cough without expectoration; the fits of coughing were at times severe, and prevented her from going into company, and almost from going to church, on account of the disturbance they occasioned. She was otherwise in good health. Several physicians, some of the old school, others of the new, had been consulted during this long period, but she had derived no benefit from any one. After some enquiry the conclusion was arrived at that the seat of the irritation, which caused the cough, was the uterus, and I gave her *sepia.* In a few days the cough ceased, and there was no return of it for more than a year. When it did come again it was quickly removed by the same remedy.

Component Parts of Organs.

We have seen that in every case of disease it is necessary to discover what organs are primarily and chiefly affected; and that in the proving of drugs a similar discovery is required to be made. We have next to consider that important organs are not simple but complex structures. Hence two questions arise, one in respect to the disease, *what part* of the ailing organ is affected? and one in respect to drugs, (when more than one act upon this ailing organ), which acts upon the *affected part?* The former question obliges an accurate diagnosis in disease; the latter a similar accuracy in experiments in health.

In the diagnosis of disease, physicians have already made considerable progress towards answering the question. For example, in diseases of the chest; affections of the covering of the lungs (such as pleurisy and hydrothorax), of the pulmonary substance (as pneumonia and tubercle), and of the lining membrane (as bronchitis), have been well separated from each other. In diseases of the abdomen, affections of the coverings of the intestines (as peritonitis), of the middle or muscular coat (as colic), and of the lining membrane (as enteritis), and also diseases of the mesentery and its glands, have been distinguished with precision.

But towards furnishing an answer to the question when applied to drugs and their therapeutic use, little has been attempted. On the contrary, even when much labour has been spent in examining a case, and a careful diagnosis has been made, we commonly hear it said that "the treatment is to be conducted on general principles." This means either that the antiphlogistic plan is to be adopted, as leeches, purgatives, and refrigerants; or tonics are deemed necessary, as quinine, porter, and wine.

Pereira, expressing the prevailing sentiment of the old school, says: "In the present state of our knowledge, a physiological classification of medicines cannot be satisfactorily effected."

Hartmann, one of the best practical writers of the new school (speaking of brain disease), says: "We shall include the symptoms of the different varieties in one group, for the reason that it is scarcely possible to separate them from each other, and that such a separation *would have no practical value.*"

And so we are apt to think of knowledge of which we are not at present in possession, either that it is unattainable, or that it is worth little; which knowledge, when discovered, we may be compelled to own is of the highest value. We ought neither to despair, nor to underrate. Nothing hinders progress so much as desponding about, or despising what is not known; and, as to the subject in hand, even Pereira admits that "it cannot be doubted that had we a more intimate acquaintance with, and precise knowledge of, *the action of remedies*, the therapeutical properties of medicines would no longer appear incomprehensible and mysterious."

This precise knowledge of the action of remedies is to be obtained by careful provings; that is, by experiments on the physiological action of medicines, experiments in health, by which the exact locality of the action of each drug may be learned. And this not only as to the organ acted upon by each drug, but also as to the particular part of each organ.

In proportion as this is done, the use of medicines will be transferred from a method resting on conjecture to one based on science, and possessing a degree of accuracy hitherto unknown.

In illustration of this advancing step in diagnosis and treatment, it may be remarked that

The *brain* may be the ailing organ; but the part affected may be the arteries, or the veins, or the cerebral substance, or the membranes. And the drug should be made to correspond; and so this may be *aconite*, or *belladonna*, or *opium*, or *phosphorus*, or *hellebore*, or *hyoscyamus*, or *stramonium*, or some other.

Or the *heart* may be the seat of disease; then it may be the pericardium, or the muscular fibres of the auricles or of the ventricles, or the lining membrane, or the nerves, or the valves. And the remedy may be *aconite*, or *bryony*, or *arsenic*, or *bromine*, or *digitalis*, or *kalmia*, or *bismuth*, or *spigelia*, or *bovista*, or some other perhaps yet unknown drug.

Or it may be a large *joint*, as the *knee;* and the part affected may be the cellular membrane, or the muscles, or the ligaments, or the cartilages, or the bones. And the remedies may be *arnica*, or *bryony*, or *rhus*, or *silver*, or *mercury*, or some other.

Or it may be one of the organs of the *senses*. Look at the eye, and it is required to find drugs which act upon the conjunctiva, the cornea, the iris, the lens, the humours, the retina and optic nerve, the sclerotic coat, the muscles. The organs of hearing, smell, and taste, and in fact all the parts of the body ask for similar attention.

We arrive at the conclusion that the goal which physicians should have before them is a perfect knowledge of the diagnosis of disease—not of its nature, but of its symptoms and its seat; and a similarly perfect knowledge of the local action of drugs. When those can be placed side by side, the true relation between them (the missing link) will be recognised. And when, in addition, the doses in which the medicines are to be given can be adjusted, the art of prescribing will have attained all the perfection it is capable of. The part of the subject, therefore, which remains to be considered is the *dose*.

The Dose.

Many are the pleasant phantoms which are joyously pursued by lively people, which others must neglect; many are the subtle questions, mirage like, which are debated with eagerness by imaginative people, which others must refuse to notice. Doses of medicines are neither a pleasant phantom, nor an attractive mirage; they are a painful reality; they command attention and make men grave and thoughtful, for they come before them on grave and thoughtful occasions, in the presence of suffering and in the prospect of death.

"Be assured," said Quincy, at the beginning of the last century, "that the true and only secret in physic is *how to give a medicine.*" This secret contains the choice of the remedy and its dose. We have passed in review the selection of the drug, it remains that we consider how much of it is to be given at one time.

There is a preliminary difficulty which must be removed before this subject can be discussed to a useful purpose between the members of the old school and those of the new.

In the old school professional men are thoroughly impressed with the notion that a medicine must be given in such doses that some observable effect is produced by it. There must be an "*opus operans.*" The dose must produce vomiting, or purging, or sweating; or it must blister or otherwise notably punish the patient. Every case is supposed to present certain indications for one or more of these unpleasant operations, and medicines are prescribed with the intention to perform them. The medical conscience is distressed with the sense of a dereliction of duty if these enterprises are omitted; and when patients recover it is believed that good has been done by this rough and roundabout process.

This notion is so tenaciously held by the medical mind that it is very hard to expel it; nevertheless, it must be expelled before the argument can be commenced and conducted on the same platform and on equal terms.

Fortunately, the first step to this platform has already been taken by the whole profession. It is allowed that "*alterative*" doses of medicine may be given. These are doses too small to produce the disturbances commonly designed, but they are acknowledged to be capable of affecting, "*in an imperceptible manner*,"' diseased organs, so as to promote their restoration to health. In the estimation of the elder branch of the medical family these are the light troops which are intended to assist the heavy artillery.

Imperceptible action, viewed as a principle, is admitted, and it is frequently adopted in practice. The proposal, therefore, that this principle should govern all, or nearly all treatment by drugs ought not to shock the medical sentiment. When the thin end of a wedge has found an entrance, it is always possible to drive it further.

In a former Essay this imperceptible action on diseased organs is called *direct* treatment, in opposition to the violent action on healthy organs, which is *indirect*. Sir John Forbes, in his last publication, has adopted the same designations.[1]

It is to be understood, therefore, in the present discussion that, as far as the use of drugs as remedies is concerned, they are to be given in such doses only as shall be followed by no effect but that of restoration to health.

Drugs taken in health in order to learn their physiological action, must of course be taken in doses sufficient to produce symptoms showing that certain organs have been disturbed; and these symptoms are noticed and recorded as the natural effects of the doses taken.

Drugs given in illness in order to cure the patient, are to be given in such doses as will be followed by a cure only. And, when prejudice does not blind us, the removal of disorder or disease in this manner will generally be as obviously the effect of the drugs, as the production of disturbances is their effect in the provings. It is true that nature accomplishes cures sometimes, or, in other words, people "get well of themselves;" but it is also true that an unprejudiced and careful observer, guided by a reasonable scepticism, will seldom be at a loss to distinguish these natural recoveries from the cures effected by remedies.

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[1] 'Of Nature and Art in the Cure of Diseases,' p. 206.

Reason and common sense will admit that doses which are followed by a cure and by nothing else are perfect doses; and yet this very perfection is the traitor which substitutes hesitation for confidence, and deters the public from a hearty reception of homœopathy. The impression that medicines to do good must produce some violent effects, is so deep and has been so long continued, that it is difficult to believe that good is being done without these effects; and medical men are tempted to take an ungenerous advantage of this impression where it exists, and to do their best to reproduce it where it has lost its hold.

Truths are like mechanical solids, they have more sides than one. For our present purpose the subject before us has two aspects; one looking towards the patient, the other towards the drug.

The side towards the patient has been already diligently examined by the elder school. Among others, Dr. Paris has enumerated the points to be attended to. With respect to the patient, he says :—

"The operation of medicines is influenced by certain general circumstances, which should be kept in mind when we apportion their *dose*, *e.g.* age—sex—temperament—strength of the patient—habit—diet—climate—duration of the disease—state of the stomach—idiosyncrasy."

This aspect of the question, therefore, need not detain us. It must be remarked, however, that good sense has not always been the guide in its consideration; for example, the mechanical physicians of the last century determined (as quoted by Dr. Paris), that the dose must be according to the constitution of the patient, and be governed by a mathematical formula thus expressed :—"The doses are *as the squares of the constitution !*" The absurdity of this does not appear to have struck Dr. Paris sufficiently, for he himself gives another mathematical formula, which, he says, has been proposed by Dr. Young.

We turn to examine the aspect which is towards the drug, and we shall assume that the prover or the patient is an adult without peculiarities or idiosyncrasies.

This again has two sides; one exhibits the doses required for proving in health, the other those employed for healing in sickness.

The questions connected with the first side—the doses for provings — have scarcely been suggested, much less have they been investigated, or their details determined. This is a region unexplored as yet, even by the section of the profession which is most advanced. I venture to offer the following observations :—

We have seen that *drugs* are characterised by acting locally; every drug being appropriated by one or more organs of the body. This local action produces disorder or disease, and thus each drug may be distinguished from the rest.

It is surprising to find that *different doses of the same drug* are sometimes characterised in this manner also. They differ from each other *by acting upon different organs.*

It follows from the discovery of this fact, that these different doses need proving in health, as if they were so many different drugs. To this extent *organopathy* applies to doses as well as to drugs.

Hahnemann has taken no notice of this fact. He has not even thought it necessary to tell us the doses which were used in his experiments.

In many provings which have been made since his time, the doses taken have been mentioned; and some knowledge of the subject may also be gleaned from the writings of Christison and Pereira. But for the most part it is a mine unworked which will reward labour.

I have mentioned, on a former occasion, as examples:—

Tartarized antimony, which in one dose acts on the skin; in another on the stomach; in another on the bowels; and in another on the lungs.

Oxalic acid, which in one dose acts like opium on the brain; in another like strychnine on the spinal chord; in another like prussic acid on the heart; and in another like a mineral acid on the stomach (Christison).

When different doses of the same drug act upon the same organ, they often act in a manner *opposite* to each other. Familiar examples are—

Opium, which acts upon the brain in different doses; one dose will excite, and another stupify.

Digitalis, which acts on the heart in different doses; one dose will retard and another accelerate its movements.

Rhubarb, which acts on the bowels in different doses; one dose will purge and another constipate.

In Hahnemann's *Materia Medica*, which is the history of his provings, this antagonistic action is everywhere apparent. For instance, the secretions of the different secreting organs are both diminished and increased by the same drugs. These opposite effects are not connected, as I think they should be, with different doses; so that, as matters stand at present, a medicine might often be prescribed ostensibly on the principle of "*contraria contrariis curantur*" quite as well as on that of "*similia, &c.*" The opponents of homœopathy have not yet advanced this fact as an objection; should they do so the reply is ready; this apparent inconsistency arises mainly from the use of different doses.

The doses which should be taken in the physiological experiments are briefly indicated in the paper read before the British Association for the Advancement of Science.[1] Experiments with poisonous doses upon *animals* are there protested against, because "any advantages to be derived from them do not compensate for the cruelty." Moreover, they are calculated to mislead rather than to guide aright; the action of drugs upon animals being often very different from that upon man.[2]

Some drugs act safely and sufficiently in small quantities of the crude substance or in tincture, as rhubarb; these may be taken both by provers and by patients in this form.

Some require to be minutely divided to render them safe; as arsenic.

Some require to be minutely divided to make them active; as mercury.

The majority of the metals it is well known are inert in their ordinary metallic state. Before being experimented upon they require to be reduced to a state of very fine pulverisation. This is done by triturating them with a small quantity of a convenient substance, such as sugar of milk. Of this trituration so much may be taken that a grain, half a grain, or quarter of a grain of the metal shall be contained in each dose. These doses may be repeated at fixed intervals. Such doses will be found to be capable of producing physiological effects—they will make the prover ill. These are to be considered large doses. In the same manner by trituration, a grain of metal added to ninety-nine grains of sugar of milk, can be divided into a hundred parts; a grain of this triture can be divided again into a hundred parts, and the process may be repeated a third time. These are called the first, second, and third centesimal triturations. A grain of either of these is to be understood as a small dose.

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[1] Essay XVI.

[2] This fact has been known for many centuries, at least since the time of Lucretius:—

> "Præterea nobis veratrum est acre venenum,
> At capris adipes et coturnicibus auget."
> Lib. iv., 640.

And again:—

> "Quippe videre licet pinguescere sæpe cicuta
> Barbigeras pecudes homini quæ est acre venenum."
> Lib. v., 899.

Other substances, also inert in their crude form, as carbonate of lime, silica, carbon, &c., and some chemical compounds of the metals, are to be treated in the same manner.

Soluble substances, as salts, and vegetable juices are generally to be dissolved in either water or alcohol; the solutions must vary in strength in proportion to the poisonous activity of each substance, for the large doses; and the small ones should correspond in strength with the tritures; a grain of a salt or a drop of the vegetable sap in a hundred drops of water or alcohol, forming the first centesimal dilution; from this the second, and from the second the third, being made in the same manner.

It may be added that while, on the one hand, in provings, doses should be as large as can be safely taken, that is, without serious or permanent injury to the health of the experimenter; on the other hand, they should extend to these first, second, and third triturations and dilutions, for the reason that in them the drugs can still be recognised either by the senses, or by chemical analysis, and therefore it is certain that they are present, and it may be expected that they will produce physiological effects.

All these doses are included in the term "medicinal." It is not only possible but very easy to prepare still smaller doses, called infinitesimal, and they also may be experimented upon.

This is the side of the doses for proving in health.

Let us now look at the other side, that which relates to the doses to be employed for healing in sickness.

This is a very important subject, for, in the words of Dr. Paris, " the dose alone very often determines the specific action of the remedy." At the same time it is a very difficult subject, and therefore much allowance must be made for any observations upon it which may be offered.

I think it is clear that the only direction in which the various questions connected with doses can meet with satisfactory answers is that towards the drugs, and the provings of them in health. All efforts made in the direction of the patient have failed. And I believe that a rule for the dose will be obtained *from the provings of different doses*, in the same manner as a rule for the remedy has been found from the provings of different drugs.[1]

It is certain that drugs act upon the same organs in sickness that they act upon in health.

It is also certain that different doses of some drugs, given in disease as in health, act upon different organs. In so far as this is the case they must be treated as if they were different drugs under the guidance of organopathy. Nearly all the details belonging to this part of the subject require to be better ascertained by new experiments.

Moreover, it is certain that different doses frequently act, as in health, on the same organ, but in *opposite* directions. To take *opium* and *arsenic* as examples :—

I suppose no one will doubt that some doses of *opium* given in apoplexy would increase the mischief; or that a similar result would follow some doses of *arsenic* in gastritis.

But it will be found upon trial that some doses of *opium* will cure even apoplexy, when that dreadful malady can be cured at all; and that some doses of *arsenic* will cure gastritis, even when, from ample experience, it is most probable that the patient would have died under other treatment.

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[1] See Essay XXII.

It has been repeatedly observed, in this and preceding Essays, that *local action* is the characteristic of drugs; and that the different organs upon which this local action is exerted distinguishes one drug from another. I think the *kind of action* on the same organ characterises the dose; but additional provings are needed to establish this.[1]

What I mean by *kind of action* will be best explained by examples. It is well known that *belladonna* dilates the pupil, and that *opium* contracts it. But these effects follow only certain doses of these drugs; other doses produce the opposite effect, so that *belladonna* sometimes contracts the pupil, and *opium* sometimes dilates it. When the doses which, respectively, produce these effects have been better determined, this knowledge will help in the choice of the dose. If the dose of *belladonna* which dilates the pupil is larger than the dose which contracts it, then the dilated pupil will indicate a larger dose, as a remedy, than the contracted pupil. And if *opium* reverses this action, and a larger dose contracts the pupil than that which dilates it, then the indications for the dose of *opium* as a remedy will also be reversed. This will be organopathy as regards the iris—the *seat* of the local action; and homœopathy as regards its contraction or relaxation — the *kind* of action. Possibly, this may apply generally and become the rule of the dose.

I think that the more violent action of some drugs and doses points them out as the suitable remedies in acute disease; and that the slower, less obvious, but more permanent action of others indicates them as remedies in chronic disease.

It is to be understood that a suitable *repetition* of the dose is included in these observations. Some doses, to produce their effects, require to be frequently repeated. This is known in the older school. Dr. Paris remarks that "the action of alteratives may be more effectually answered by exhibiting small doses at short intervals."

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[1] See Essay XXII.

But this repetition is not to be indefinitely prolonged. Here again a direct contrast occurs between the old and the new method; in the older school, when a prescription is believed to have done good, it is usual to advise its continuance on that account; in the new school, when a remedy has acted beneficially, it is generally best to discontinue it.

Another fact of interest and importance requires to be noticed:—a drug which has power to act upon several organs, when given in small doses will act upon the one which is diseased, and will pass harmlessly through the healthy ones, *e.g. belladonna* acts on the brain, the eyes, the throat, and the skin; it may be given to one patient for ophthalmia, and to another for sore-throat, and cure both without affecting the other organs in either patient. If a headache has been produced the dose has been too large. This fact is a great recommendation of the small doses, and the reason of it I take to be that the dose is large enough to make its presence felt by the morbidly excited part, but not by the healthy ones.

If we aim at certainty in our practice, the *limits* of our range of doses as remedies should be nearly, they cannot be exactly, the same as those adopted in our provings. Larger doses may be taken in health than can be given in disease; and smaller doses have power to act in disease than can be satisfactorily proved in health, unless it be by very sensitive individuals. Each organ as well as each drug has its own range of doses. We depart from our principle when we give doses very far removed from those which have been proved.

During the discussion on the Paper read at the meeting of the British Association at Nottingham, one speaker objected to the use of provings as recommended in the Paper, that drugs sometimes require to be given in much larger doses in disease than is necessary in health to produce the same effect. *Opium* was mentioned as an example, and the very large doses which were sometimes required to procure sleep.

The reply to this objection is that the subject is the *alterative* action of drugs when used as remedies; and therefore the fact alluded to has no bearing upon the matter in hand, which does not include the prescribing of any doses for such purposes. As has been already remarked, doses taken in health as experiments in physiology, or as they are now more frequently called provings, must be large enough to produce obvious effects—effects sufficient to characterise the drug. In this way medical men may gratify their inclinations in favour of large doses to the full; they may make themselves suffer from medicines as much as they like; but when doses are prescribed for patients the object should be to give them just large enough to cure the ailment, not large enough to produce any effect characteristic of the drug.

I have hitherto, in the successive Essays, restricted my observations to matters of fact; I will add here, that such of my readers as are of a speculative turn of mind may engage in a series of experiments to discover, if possible, whether the mechanical force developed in the trituration of drugs has any effect upon them besides the minute division of their particles; whether any *drug-force* is generated, after the theory of Mr. Grove, which he calls "the correlation of forces;" and whether the nerve force of Dr. Carpenter has any special relations with this drug force. It is a well ascertained fact, hitherto quite without explanation, that drugs act upon organs which have no very apparent connection with each other; for example, *ipecacuanha* acts on the stomach and the lungs, one organ in the abdomen, the other in the chest; if there is a relation between the drug force of ipecacuanha and the nerve force of the pneumogastric nerve, the junction of the stomach and lungs in the action of this medicine may be accounted for.

It may be possible to connect the action of other drugs in the same manner through the distribution of nerves; this will not be a barren speculation, for it will become a check to test the accuracy of provings, and will aid in the selection of remedies. Certain drugs may thus be found to be connected with certain nerves, and this may be the cause of *local action.*

I now beg leave to address the different sections of the profession which have been spoken of in the early part of this Essay.

To those who seem to constitute the majority, who are content with a practice of routine, and who justify their conduct by an appeal to *authority*:—If you would observe what passes before you more carefully and reflect upon it more seriously, you would, I think, by-and-by, be alarmed at the amount of mischief you have unconsciously and unintentionally done. It is not to reproach you, but to awaken you that you are asked to consider what evil has arisen, during many years, from indiscriminate bleeding and from universal purging! and more recently, from the excessive use of stimulants! what injury from calomel, blue-pill, grey-powder, and other forms of mercury dealt out to almost every patient! what mischief from steel and quinine, given for debility, without regard to the nature of the disease or the cause of the weakness! How many have been sent to a sleep, from which they have never awoke, by opium!

Routine must be acknowledged to be an evil, but it may be greater or less; and if there must be a routine, the new school can offer one which is much less destructive than the old ones. Adopt this practice, and though you may often fail to do good with small doses of *aconite* and *belladonna*, you will do less harm than with large doses of *calomel* and *opium.* You may still appeal to *authority*, for you will be obeying half the precept of the Father of Medicine:—"The physician must do good to his patient, or at least *he must do no harm.*"

The difficulty of avoiding useless speculation, and of being contented with accurate observation; the difficulty of enlarging experience; the difficulty of discovering what nature can do without the assistance of art, and when and how such aid can be really useful; the discouragement arising from the loss of faith in medicine among modern teachers; added to the most urgent and pressing difficulty of all—the necessity for daily, hourly *action*, by a large body of medical men at the bedside of innumerable sufferers; all these difficulties have made it almost impossible to avoid falling into certain customs or routine, very varied in different hands, but each exercising a pernicious and tyrannical influence over freedom of thought and conduct.

But I would fain hope that a growing sense of the responsibilities of professional life, notwithstanding all these impediments, will diminish, day by day, this numerous class, until the individuals composing it have passed over, one by one, to join those who do their best to exert the intelligence and to improve the opportunities which have fallen to their lot.

To the Dogmatists, (this term is used in its original and good meaning, not in its modern and condemnatory one,) who respect *reason* and insist with great propriety upon its exercise, and who are earnestly searching after a theory of medicine:—Nothing secular can be more valuable than a true theory of medicine, and all who seek it deserve to be commended. But the fact that the search has been continued for more than two thousand years without success suggests that the method of search is wrong, and that some other method should be attempted. Hitherto hypotheses have succeeded each other, and have disappeared because they have been schemes invented first, and then facts having no relation to each other have been gathered together to support them. The schemes have been like spiders' webs, and the facts like so many flies entangled in them.

But the object of a thoughtful physician should be to discover, not to invent; to find out something, not to create it; to ask what the cases he sees teach, not what they may be made to prove.

It should be his endeavour, by patiently observing the natural phenomena of disease, to discover the laws by which God is pleased to govern them; not to imagine hypotheses and then to compel the phenomena to prove his guesses to be true.

He should be fully persuaded that observation and induction are true guides, and be content to abide within their boundaries. He should limit hypotheses to their proper use, for they have a sphere of usefulness, which is to suggest new observations and new experiments, which may lead to the discovery of new truths.

I shall rejoice if the intelligent minds I am now addressing, can be persuaded to reflect that the system of medicine which they are urged to investigate is a subject to be decided, not by argument, but by evidence; and to remember that prejudice sometimes blinds even wise men, so that they cannot understand that the earth moves, and sometimes makes them so wilful that they will rather deny the existence of Jupiter's moons, than look through a telescope to see them.

Homœopathy may not be the final expression of a true medical theory, but it is the best approach to it which has yet been made. This should be enough to charm a dogmatist, and to induce him to dismiss all the hypotheses of the schools; in the language of Lord Bacon, to throw away the idols of the theatre, and to embrace, with a thankful heart, what is a matter of observation, induction, and common sense.

To the dogmatists, therefore, is offered a *theory* of medicine.

To the Empirics, (and this word also is used in its good meaning, that in which Dr. Stokes uses it,)—

Experience is indeed good, in truth there is nothing good in medicine which is not founded upon experience; but you will own that the experience hitherto accumulated is meagre and defective. Now, in the new school, though the time is yet so short, there are facts and experience already collected enough to delight any empiric. It was well named by Hahnemann, when the work was new in his hand and fresh before his mind, "the medicine of experience."

Every proving of a drug upon the healthy, and every case of disease treated by a drug in accordance with the proving of it, adds to this experience; the sum is accumulating every day. Five years of active practice after this method will give a medical man more positive knowledge in his profession than fifty did before.

To the empirics, therefore, is offered *experience*.

To the Sceptics, whose uppermost thought is reliance upon nature, and who, along with the homœopathists have done good in diminishing the violence and destructiveness of "active treatment:"—While trusting to nature you perform half your duty, but only half. Assuredly, a patient should not die and it be reported that "all has been done for him that could be done," when art has done nothing.

You must not forget that the physician's art as much binds him to assist nature, as it forbids him to embarrass and hinder her. His reward is to be found in the satisfaction of having done positive good, and not only in the cold comfort of having done no harm. The only scepticism which we can afford to cherish is that reluctance to trust remedies which may be false, which springs from believing firmly that God has provided remedies which are true.

Embrace homœopathy, and your dependence upon natural efforts at recovery will still have the fullest opportunity of being justified, consistent with the faithful discharge of your duty as physicians. This duty comprises, not only "la médecine expectante," but also all the succour which can be safely rendered to your patient by art.

To the sceptics, therefore, is offered to the utmost extent lawful, the *vis medicatrix naturæ*.

To the Philosophers:—Everything is beautiful in its season and in its place, and science is no exception. When its various branches are restricted to their own domains it is excellent. The stars for astronomy, and machinery for mechanical science; but it is not good to look to one branch of science for help in the province of another. For example, chemistry can teach us a good deal about the chemical changes which take place in animal life, both in health and in disease; but it is a mistake to suppose that it can ever teach a therapeutic law. You expect too much from the collateral departments, and you are thus led to neglect the study of medicine as an independent science.

You are now taking up Hahnemann's work, the proving of drugs in health, or experiments to ascertain the physiological action of medicines. This is a noble work, but you are engaging in it without acknowledging his example, and consequently without profiting by his labours, and by those of many others who have already followed him in this line of investigation.

Moreover, you are pursuing this good work in a wrong direction; you propose to make your experiments on *dogs*, which you consider the best adapted for the purpose. Poor creatures! what intimate connections you have traced between the human species and the canine, which give them this special adaptation, does not appear. A favourite hypothesis of our day would rather suggest *apes* as standing in the nearest relationship.[1]

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[1] This undertaking has not even novelty to recommend it. My readers will, no doubt, remember Addison's Paper on the Medical Profession (*Spectator* No. 21. March 24, 1711), in which he says:—"There are, besides the above-mentioned [practitioners], innumerable retainers to physic, who, for want of other patients, amuse themselves with the stifling of cats

These experiments, if carried out, will be a gigantic failure; and the sooner your attention is directed into the only useful channel—the investigation of the action of drugs upon yourselves—the better will it be for the sick.

I must not shrink from calling your attention to another defect which operates as a bar to the success of your school. You suffer your horizon to be limited by considerations of orthodoxy, of position, of etiquette. The end you profess to aim at, and I believe sincerely aim at, will never be attained as long as information from any quarter is ignored or rejected.

"It is the work of a philosopher," says the *Spectator*, "to be every day subduing his passions and laying aside his prejudices."[1] Vindicate your claim to the title by overcoming whatever evil influences have hitherto withheld you from entering upon an investigation of homœopathy. The study of nature admits of no artificial or social restraints; those who pursue it must breathe a pure air, they must walk with unfettered feet, they must work with untied hands, they must be neither respecters nor contemners of persons, and they must be free from *the trammels of station*. When this study is thus reverently approached, the God of nature will own the labour and crown it with success.

It will have been observed that throughout these Essays speculation has been resolutely abstained from, and attention has been devoted to a dry narration of facts. Let me urge upon you to consider this series of facts and the evidence upon which their credibility rests, and to go in search of similar facts, and I feel assured you will not be disappointed.

To the philosophers, therefore, is offered a *scientific basis* of medicine.

I have now the pleasure of addressing the Homœo-

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in an air-pump, cutting up *dogs* alive, or impaling of insects upon the point of a needle for microscopical observations."

[1] *Spectator*, No. 564.

pathists :—With very few exceptions, you have been educated in the old school, and most of you have worked after the fashion of your fathers. You have thought it your duty to examine and to test Hahnemann's doctrine and practice, and in an independent, not in a slavish manner, you have adopted it. You have claimed the liberty which is due to honesty of purpose and independency of thought. I am sure you will accord me the same liberty, and will listen to me while the results arrived at, up to the present time, are briefly recapitulated.

The ordinary practice has been departed from—

> By the rejection of what are technically called the *indications ;* such as to evacuate and lower, or to stimulate and build up.
>
> By the rejection of the *intentions* with which remedies are prescribed ; as to produce vomiting, purging, sweating, &c.
>
> By the rejection of *counter-irritation ;* as blisters setons, cauteries, &c.
>
> By the rejection of *compound prescriptions*, and also of poisonous doses and other violent measures.

At the same time Hahnemann's doctrine and practice have been modified—

> By separating the *principle* from the infinitesimal dose.
>
> By limiting the principle to *drugs*, to the exclusion of all other applications of it.
>
> By preferring the view of *local* to that of general action.
>
> By directing attention to the *organs* which are the seat of the symptoms, as well as to the symptoms themselves ; and this both in the proving of drugs in health, and in administering them as remedies in disease.
>
> By recommending the study of the action of drugs on the *component parts* of an organ.

> And by pointing out the necessity which exists for proving the more powerful drugs in *different doses.*

To the homœopathists, therefore, this modification of Hahnemann's system, called *Organopathy*, is offered.

To conclude. If any one will do me the honour to read attentively this and former Essays, and will test each statement, step by step, in his own practice, I think he will come to a succession of conclusions similar to mine. He will observe that there has been no going back; change in a certain sense there must be, for he that moves must change; progress implies change, but it does not imply turning back; from Essay to Essay there is progress. I therefore commend these exercises to the attention of my professional brethren, and press upon them the duty of engaging in similar researches.

In this Essay the *routinists* are spoken of, and it is admitted that respect for authority is good, but it is contended that the abuse of it renders their practice mischievous and unworthy of men of education; and they are appealed to, to shake off their indolence and rouse themselves to partake in the pleasure of observing, and in the privilege of thinking.

The *dogmatists* are spoken of, and it is acknowledged that the exercise of reason is good and that a theory is necessary, for if men cannot discover, they will speculate; but they are reminded that medical systems, for many centuries, have been mistaken and ephemeral, and they are appealed to, to examine practically the doctrine of the new school as a sound basis for a theory of medicine.

The *empirics* are spoken of, and it is granted that experience is good; but they know that their experience is defective, and, in the language of Hippocrates, "deceitful;" and they are appealed to, to observe and to make use of the many facts which the new school has already collected, and above all to take hold of the guide to the discovery of many more which this school possesses.

The *sceptics* are spoken of, and it is shown that reliance upon nature is good; but that their confidence in it is excessive, and that reliance upon nature is not sufficient to meet the requirements of their office; and they are appealed to, to turn their attention to the practice of a school which relies upon nature without ignoring the powers of art.

The *philosophers* are spoken of, and, while freely admitting the utility of the collateral sciences to medicine, I have endeavoured to convince these practitioners that they are pursuing by-paths instead of the one which lies straight before them; and they are appealed to, to keep each science within its proper bounds. They are also entreated to break off the chains in which they are bound by the fear of losing their social position.

The *homœopathists* are spoken of, and it is contended that they have the advantage over their fellow-physicians, because they have entered upon a path and have laid hold upon a guide which, if they loyally follow it, will lead them more and more into medical truth. But they are warned lest, from an undue regard to authority, they follow Hahnemann instead of truth, and so fall into routine and lose their pre-eminence. They are shown how reason, and experience, and reliance on nature, and the collateral sciences contribute to the improvement of their method, to the advancement of their cause, and to the strengthening of their claim upon the confidence of the world.

I desire to take a bright view of the future, and to believe that the integrity and conscientiousness of the profession will prove equal to the occasion. I trust that, under the influence of a sense of duty, medical men will throw away their prejudices and exercise the self-denial which is demanded of them. I am bound to say that the effort required of them is a mighty and a painful one, and the sacrifice they will have to make is greater than some will know how to bear; so that, if they do adopt the proposed change, it will be a great and lasting honour. In this manner the unity of the profession will not only be restored, it will become more real than it ever was; the position of the profession towards the public will be put right; and all will rejoice to find that though homœopathy made a great rent, and kindled a flame of enmity, the rent has not been to the foundation, and the flame has died out.

But should this not happen, we may expect that the public will take the matter into their own hands. They will become conscious that a small number of their medical advisers have been fighting a battle on their behalf, and that the final victory depends upon themselves. They will see that the struggle has been in the interests of the public, and not in those of the profession. To be cured more quickly than before must be more to the advantage of patients than of doctors. This is common sense. And those who have received the benefit will feel that it is incumbent upon them to be firm in the support of the system through which they have received it; to have courage to own it: and to have courage to abide by it in the hour of doubt and fear. When the laity are true to themselves the profession must yield.

ESSAY XVIII.

THE ANATOMICAL BASIS OF THERAPEUTICS.

> "He that would not deceive himself, ought to build his hypothesis on *matter of fact;* and make it out by sensible experience."
>
> JOHN LOCKE.

ANALYSIS.

Introduction—Sir Thomas Watson's Address.

Homœopathy the law of similars.

Three definitions :—

1. *Similar symptoms.*
    - The homœopathy of Hahnemann.
    - And of some homœopathists.
    - Its difficulties.
2. *Similar diseases.*
    - The word "symptom" defined.
    - A pathological basis desired by many homœopathists.
    - Their efforts to obtain it.
    - Its difficulties.
3. *Similar organs.*
    - Introduction.
    - Identity—Organopathy.
    - All diseases local or partial.
    - Action of all drugs local or partial.
    - Two opposite rules of practice drawn from these facts.
    - Anatomical basis proposed.
    - Its difficulties.

ESSAY XVIII.[1]

THE ANATOMICAL BASIS OF THERAPEUTICS.

"The art of healing has scarcely hitherto had any guide but the slow one of experience, and has yet made no illustrious advances by the help of reason."

WILLIAM HEBERDEN.

THERAPEUTICS, the art of healing, to be any thing better than speculation or empiricism, must have a basis or foundation to stand upon.

It is acknowledged by all the best writers on medicine that this foundation has not yet been successfully laid. The memorable words lately uttered by Sir Thomas Watson, in his Address on the inauguration of the new Clinical Society, are a sufficient testimony to this fact. The entire Address is remarkably interesting to us, but I must content myself now with a single extract.

"Certainly the greatest gap in the science of medicine is to be found in its final and supreme stage—the stage of therapeutics. The anatomy of the human body is sufficiently well known. Its material pathology, also, has been, I will not say completely, yet very amply and fruitfully ransacked. . . . I say its *material* pathology; for the condition of doctrinal pathology must necessarily partake of whatever imperfection may be found in the correlative science of physiology. Again, we have attained to a great degree of certainty in the detection and discrimination of disease in the living body. We know tolerably well *what* it is that we have to deal with; but we do not know so well—nor anything like so well—*how* to deal with it. . . . We want to learn distinctly and clearly *what is the action of drugs*, and of other outward influences upon the bodily organs and functions. . . . To me it has been a life-long wonder, how vaguely, how ignorantly, how rashly, drugs are often prescribed. We try this; and not succeeding, we try that; and baffled again, we try something else; and it is fortunate if we do no harm in these our tryings. Now this random and hap-hazard practice, whenever, and by whomsoever adopted, is both dangerous in itself, and discreditable to medicine as a science. Our profession is continually fluctuating on a sea of doubts about questions of the gravest importance. Of this the evidence is plentiful and constant. . . . I say this uncertainty, this unseemly variation and instability of opinions, is a standing reproach to the calling we profess. . . . *Of therapeutics, as a trustworthy science, it is certain that we have, as yet, only the expectation.*"

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[1] First published in 1868. It was written at the request of a Medical Society, and read at Birmingham, Oct. 5, 1868.

I repeat, these are memorable words; worthy of the speaker, and of the occasion. They demand to be seriously pondered by every member of the medical profession. They form such an ample justification of the honest labours of homœopathists as to leave nothing further to be desired. It is true that the worthy baronet has not courage to own us, or to propose us as members of the Clinical Society; we will, nevertheless, claim to be the pioneers in the difficult and tangled road, which, according to his admission, in another paragraph of his Address, is to lead to the goal of a scientific therapeutics.

Thus encouraged we proceed.

The doctrine of homœopathy is the prescribing of drugs in disease according to the law of *similars.* It admits of three definitions :—

The remedy for each individual patient must have, in its provings, similar symptoms ; or,

It must be capable of producing a similar disease ; or,

It must affect similar organs or parts of the body.

This last is, in fact, not a similarity, but an identity ; and hence the necessity for a change of name, in respect to what belongs to it.

The first definition is the final homœopathy of Hahnemann. His writings contain many contradictions, and some passages may be quoted which seem to contradict this statement ; but, if anything may be proved as distinctly his teaching, this can be ; and as it is a matter of importance, I must beg leave to remind you of a few passages which seem to establish it without dispute. It is essential to make this method of practising homœopathy clear and unequivocal.

I repeat the definition :—

The remedy for each individual patient must have, in its provings, similar symptoms.

"Symptoms" being here taken in the sense generally accepted by the profession ; as the signs of the disease, as produced by it, and manifesting its existence.

In an essay *On the Value of Speculative Systems of Medicine,* published in 1808, Hahnemann says :—

> "Besides a historical acquaintance with the constitution of the human frame in a healthy state, the physician *needs but to know the symptoms* of the particular malady in order to remove it, supposing he then knows the right remedy."

In his letter to Hufeland, in 1808, *On the Great Necessity of a Regeneration of Medicine,* he says :—

> "Take the medicines *according to the symptoms* careful and repeated observation has shown they produce

in the healthy body, and administer them in every case of disease that presents a group of *symptoms* comprised in the array of *symptoms* the medicine to be employed is capable of producing in the healthy body; thus will you cure the disease surely and easily. Or, in other words, find out which medicine contains most perfectly, among the *symptoms* usually produced by it in the healthy body, *the sum of the symptoms* of the disease before you; and this medicine will effect a certain, permanent and easy cure."

In the Preface to his *Materia Medica Pura*, Hahnemann says :—

"The day of the true knowledge of remedies, and a true system of therapeutics will dawn, when physicians shall abandon the systems and opinions which have heretofore swayed the minds of the profession; when they shall act upon the principle that every single medicinal substance is capable of curing a case of disease the *symptoms* of which shall be exactly analogous to those which the medicinal substance is capable of producing upon a healthy organism."

In the first volume of his *Chronic Diseases*, in the preliminary chapter on "Treatment," Hahnemann says :—

"The homœopathic physician should not pay any attention to the names which he finds arrayed in works on pathology, he should, above all, *study the symptoms, and select a remedy in harmony with them.*"

Lastly, in many paragraphs in the *Organon of Medicine*, Hahnemann expresses this view so strongly that, if his words have any meaning at all, they can mean nothing else; and it will be remembered that Dr. Dudgeon, the translator of this book into English, says of it, in his Preface :—"Perfect and complete in itself, it leaves no point of doctrine unexplained, no technical detail untouched, no adverse argument unanswered." We are bound, therefore, to take the explicit declarations of this book as the mature and final teaching of Hahnemann.

Now, in paragraph VI, page 111, he says :—

"The unprejudiced observer, let his powers of penetration be ever so great, takes note of nothing, in every individual disease, except the changes in the health of the body and of the mind, (*morbid phenomena, accidents, symptoms,*) *which can be perceived externally* by means of the senses."

After repeating this statement in other words, in paragraph VII, page 113, he concludes by saying :—

"Thus, in a word, *the totality of the symptoms* must be the principal, *the sole thing,* the physician has to take note of, in every case of disease, and to remove by means of his art, in order to cure and to transform into health."

Again, in paragraph XVIII, p. 120 :—

"From this indubitable truth, that, besides *the collective symptoms*, nothing can be discovered in any way in diseases, wherewith they could express their need of aid, it undeniably follows that *the sum of all the symptoms*, in each individual case of disease, must be *the sole indication, the sole guide* to direct us in the choice of a curative remedy."

Once more, in paragraph XXVII, p. 126 :—

"The curative power of medicines, therefore, depends on their *symptoms*."

The only qualifications of these strong declarations which are admitted by Hahnemann are, that "the probable causes; the most significant points in the history of the case; the apparent physical constitution of the patient; his moral and intellectual character; his occupation; mode of living and habits; social and domestic relations; age; &c., are matters useful to the physician in assisting him to cure." It is well known that he declaims vehemently against investigations into the pathology of disease.

Is it not, then, beyond contradiction that the law of similars, as taught by Hahnemann, is the similarity of symptoms?

And that his practice was in conformity with this teaching is put equally beyond dispute by the arrangement of the provings of drugs which he has adopted both in his *Materia Medica Pura* and in his *Chronic Diseases.* These books contain symptoms only, and symptoms so disjointed and scattered over the various parts of the body, as to make it impossible to use them, for the purpose of prescribing, in any other manner than the single one of comparing the symptoms of the patient with those of the drug.

That Hahnemann's practice was regulated in this manner is also manifested beyond question in each of the cases treated by himself which he has published.

To put this matter still further beyond dispute, if that is possible, your attention must be detained a few moments longer, while I make two short extracts from the English translator of Hahnemann's works, and one from an American edition of them. The former, Dr. Dudgeon, in his *Lectures on Homœopathy,* says :—

> "It has been stated by the enemies of homœopathy disparagingly, and by some friends of the system eulogistically, that homœopathic practitioners in general, and the more strict Hahnemannians in particular, neglect or despise the advances of modern pathological and physiological science; and this is, to a certain extent, true; for, *as long as his Materia Medica is confined to a bare enumeration of symptoms, arranged in defiance of accredited physiological principles, so long must the practice of the homœopathist be mainly made up of an almost mechanical comparison of symptoms.*"

Dr. Dudgeon says again :—

> "The sum, therefore, of the practitioner's duties, in

regard to the selection of the remedy, according to Hahnemann, resolves itself into a purely empirical act—an almost *mechanical comparison of the drug-symptoms with the disease-symptoms;* and the medicine found to present *the greatest similarity in respect of its symptoms with those of the disease* is the most appropriate, the most homœopathic remedy."

Dr. Constantine Hering, in his preface to the American edition of Hahnemann's *Chronic Diseases,* in the same explicit manner, testifies to this statement. He says:—

> "Hahnemann teaches that the remedies should be chosen according to the symptoms of the patient. Both in the *Organon* and in his *Treatise on the Chronic Diseases,* Hahnemann *insists upon the remedies being chosen in accordance with the symptoms.*"

It is very possible to study cases of disease, and also provings of drugs in health, so as to notice symptoms only; and it is also possible to draw a comparison between the symptoms of the disease and the symptoms of the drug. This can be done without reference to what the symptoms may signify, either as regards the nature of the disease or its seat.

That this was the mode of practice Hahnemann wished to recommend, I think no candid student of his writings will attempt to question.

That this is what a proportion of homœopathists still continue to practise is, I think, also certain.

Then the first definition of homœopathy must now be sufficiently clear—namely, that the law of similars may be carried out in practice by a simple mechanical comparison of the symptoms of diseases with the symptoms of drugs, without any physiological or pathological notions; and it must also be clear that this is the homœopathy of Hahnemann.

That the symptom-method of prescribing drugs as remedies in disease has merit—great merit—is evidenced by the best of all proofs, the practical proof of success—success in the face of the most powerful and most determined opposition that any thing medical was ever exposed to.

Let it be understood, therefore, that I, for one, am quite willing to acknowledge this merit, and do acknowledge it. Nevertheless, there are great difficulties in this method, and some of these must now be briefly mentioned.

1. It has led to an arrangement of the symptoms produced by the provings of drugs which prevents their true character, as signs of the diseases which they represent, being discovered. In the words of Dr. Dudgeon :—"It would indeed be hard enough to recognise a well-known disease, of fixed character, if all the symptoms were disunited from their natural connections, and the whole complex of symptoms arranged, not according to the period of their occurrence, but according to a most artificial, topographical plan, commencing at the head and going down to the feet. . . . Would it not puzzle Œdipus himself to discover the different features of any one disease among the confused and unconnected jumble of several others ?"

2. This arrangement of the symptoms in the provings often leads to the selection of a remedy for insufficient, or even for frivolous reasons. Examples of this need not be given ; they are familiar with all who are acquainted with homœopathic practice. So long as symptoms are looked at, unconnected with the condition of which they are the sign, this evil cannot be altogether avoided.

3. To carry out this method with the minuteness its advocates require, to a man engaged in extensive practice, is impossible. He is necessarily driven into a slovenly routine. Look at the manner in which fifty or sixty patients have to be seen, talked to, and prescribed for, in the course of the morning, and think how the multitude of medicines in the present Materia Medica, and their tens of thousands of symptoms, are

to be placed by the side of the symptoms of the various patients, with the individuality demanded, and you must own it to be impossible. I have heard of an amateur who gave two or three days to the study of each case, but no medical practitioner can do so.

4. The symptom-method ignores anatomy, physiology, pathology, and diagnosis, and renders them useless. All the departments of medical science which, as Sir Thomas Watson has observed, have been carried a considerable way towards perfection, are rejected. No benefit, either to patient or physician, can be derived from the enormous labour which has been so patiently and perseveringly bestowed upon these difficult and often painful studies, by successive generations of medical men. Whereas, it seems plain that therapeutics ought to rest upon a foundation which these labours have helped to lay.

5. In consequence of the rejection of pathology and diagnosis, the prescriber must be liable to overlook the distinction between idiopathic and sympathetic affections; between symptoms which arise from diseases of the organs they are connected with, and those which are the effect of sympathy with some other diseased organ. For example, in two cases of headache and sickness; the headache may arise from a disordered stomach, in the one case, and in the other, the vomiting may proceed from an affection of the brain—perhaps produced by a blow—and in this manner inappropriate remedies may be administered.

6. The imperfection of the method is acknowledged, not in words, but in deeds, by Hahnemann himself. After following it for some years, he found that he could not in this manner cure chronic diseases; and he was compelled so far to forsake his symptom-treatment, with respect to them, as to invent a pathological hypothesis, which was to underlie the symptoms, and to help in the selection of the remedy. All chronic diseases were supposed to have for their essence one of three miasms—sycosis, syphilis, or psora. In this manner Hahnemann was com-

pelled to contradict one of his most positive declarations — that contained in paragraph VIII. of the *Organon* :—

> " It is not conceivable, nor can it be proved by any experience in the world, that, after removal of all the morbid symptoms of the disease, and of the entire collection of the perceptible morbid phenomena, there should or could remain anything else but health, or that *the morbid alterations in the interior could remain uneradicated.*"

In a note to this paragraph he adds, " and yet the chief of the old school, Hufeland, asserts that 'homœopathy can remove the symptoms but the disease remains.' " And this assertion Hahnemann attributes to an evil motive in the Nestor of medicine —" mortification at the progress made by homœopathy."

It is worthy of notice here, that this declaration of Hahnemann's, has been repeated by one, and contradicted by another, of our best English writers on homœopathy.

Dr. Black (in his *Treatise on the Principles and Practice of Homœopathy*) says :—

> " To cure disease it is merely requisite to remove the entire symptoms, paying due attention to the fundamental cause, and other circumstances that are analogous. *When all the symptoms have disappeared, the disease is cured.* True as this statement is, it has been cavilled at, upon the ground, that, though symptoms may be removed, the cause may still exist. But if the entire morbid phenomena be removed, if no trace of disease exist, can we not with truth state, that the cause, the origin of the symptoms, has also disappeared ? "[1]

But, as has been already observed, Hahnemann's hypothesis of latent psora contradicted this statement; and the contradiction has been re-asserted just now by Dr. Drysdale, who says:—

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[1] It is an agreeable duty to add that this was written so long ago as 1842.

"Formerly we were told that diseases were cured by medicines corresponding to the totality of the symptoms, and that without that correspondence a cure could not take place. But now it appears that a medicine can correspond to all the cognisable symptoms of an active disease, and homœopathically cure it to all appearance, without, however, removing the real essence of the disease, which is only reduced to its dormant state; and unless now treated with other medicines (hypothetically called anti-psoric), may break forth again from slight accidental causes. Strange as it may appear, and inconsistent as it certainly is with the original theory of homœopathy, this, I believe, we must recognise to be the fact, and to be an advance on the previous principle."

It follows that, as far as this is true, and in proportion to the number of cases it applies to, symptom-treatment must fail as a basis of therapeutics.

7. Lastly, the symptom-method of treatment renders the medical profession itself almost unnecessary. The mechanical comparison of symptoms, without reference to internal morbid conditions, puts the layman on a level with the physician. It is this which has given rise to an endless number of books of domestic practice; it is this which has so altered the relative position of patient and physician as to make both feel uncomfortable; and it is this which has tended more, perhaps, than anything else, to perpetuate the indignant opposition of the medical faculty.

If the public can be really benefited by the ruin of the profession, by all means let this be accomplished. But it is impossible for any sober mind to entertain such a notion. The division of labour lies at the bottom of social life, and, so long as society is afflicted with disease and death, it must be for the interests of society that a body of men be educated for, and exclusively devoted to, the care of the sick and dying.

A system of medical practice which diminishes in the public mind the feeling of dependence upon the medical profession is, for that reason alone, shown to be defective, and one to which the public themselves, when rightly informed, must object.

From all these difficulties it appears plainly, as a matter of fact, symptomatology alone cannot be laid as a permanent basis for therapeutics.

Let us now consider the second definition of the law of similars.

The remedy must be capable of producing a similar disease.

Before we can proceed with this enquiry, a misuse as to the meaning of a word must be explained.

The difficulties of all medical systems are unavoidably great, and homœopathy is not exempt from these; but to these one has been added which might have been avoided, and that is the indefinite meaning with which important words and phrases have been used, both by Hahnemann, and by some of his followers.

This difficulty met us at the beginning of the investigation, in the *wide application* of the law of *similia* made by Hahnemann, and which I endeavoured to clear up in the earlier Essays. It meets us now in the unusual meaning which is attached to the word "symptom."

Let it not be thought a waste of time to give some attention to this matter. In all controversies it is essential to define with care the meaning of words; many controversies would be settled by such definitions.

It is remarkable that some of the best writers on homœopathy apply the word "symptom" to the diseased condition, as well as to the signs of this condition. For instance, they would call hepatization of the lung a symptom, as well as the difficulty of breathing, and the absence of respiratory murmur which it causes. In ordinary medical language, and in the writings of the eminent men of the older school, the hepatization would be called the disease, and the dyspnœa and dulness symptoms or signs of it. But

Dr. G. M. Scott says :—

> "By pathology . . . I understand simply the whole amount of symptoms presented by a disease, recondite or superficial, but certainly discoverable; and however far our researches may be carried, whenever we can adduce a new symptom, whether functional, organic, or chemical, this symptom is to be added to the rest, to complete the pathology of the disease. Thus the pathology of each disease is immutable, that is to say, each case of disease comprises essentially a certain amount of *symptoms*, neither more nor less."

Again :—

> "If we have always associated a certain superficial symptom, as cough, with a supposed state of the lungs, so long as this state is merely supposed, we theorise; if a sufficiently extensive induction prove the connection, the *state*, not now supposed but discovered, *becomes a symptom*."

Dr. Black uses similar language; he says :—

> "Great misconception has arisen from the undue consideration of the term '*totality of the symptoms;*' by totality we are to consider not only the symptoms which the patient may describe, but also all those which the tact of the physician can discover. Thus it is not to be imagined that the homœopathist neglects the employment of the stethoscope or percussion. The indications afforded by these are surely symptoms; for example, if *tubercles* existed on the skin, would they not be ranked among the symptoms? [certainly not, by the generality of medical men.] Then why should they not also be so considered when existing in the

lungs, made appreciable to the physician not by sight but by hearing?"[1]

Our worthy colleague's conclusion, though rightly drawn, is wrong, because it is drawn from mistaken premises. Tubercles, wherever found, are a disease and not a symptom. To write in this manner is to destroy the meaning of words.

Some have gone even further than this, and have called *the seat of the disease,* as well as the disease itself, a *symptom.* Such a confusion of terms, if continued, will render all discussion of the subject fruitless.[2]

Symptoms are signs, the thing signified is the morbid state or condition which produces them.

The word "symptom" is used in these Essays in this definite and limited sense. Hahnemann's rejection of pathology, his *Materia Medica,* and his practice, alike testify that he also used the word in this limited sense. If we would speak intelligibly and accurately, such limitation is necessary.

The morbid state which is the cause of the symptoms is the pathological condition, *i.e.* the disease. This is to be distinguished from the symptoms. It is this which we have now to investigate as the second definition of the law of similars, which, as already stated, is this :—

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[1] 'Principles and Practice of Homœopathy,' by Francis Black, M.D., p. 94.

[2] Dr. Russell Reynolds, in his (allopathic) *System of Medicine,* inclines towards the opposite side. Instead of resolving the disease into a symptom, he considers the symptoms part of the disease. He regards symptoms "as integral parts of the malady;" "as much parts of the disease as the structural conditions." Still he recognises symptoms as "signs by which we recognise the presence" of disease; which is enough.

The truth is that in nature there are no abrupt lines of separation in such matters as these; *the disease and its symptoms together constitute the illness* from which any of us is suffering. But in writing books definition becomes necessary, if books are to be intelligible; and this is one of those questions relative to the interpretation of words which it is needful to have settled. Generally, the less the meaning of words is altered the better, and therefore, I think, the old distinction between symptoms and diseases should be maintained. Whoever uses words in an unfamiliar sense places himself at a disadvantage with his readers.

The remedy must be capable of producing a similar disease.

Under the first definition of the law of similars we have seen that to look only at the symptoms, and to make an enumeration of them, for the purpose of a mechanical comparison with a similar enumeration taken from the symptoms produced by drugs, is the method finally adopted and taught by Hahnemann; that it is the method for which his *Materia Medica* is specially prepared; and that it still characterises the practice of some homœopathists.

Others, however, are not satisfied with this method.

Dr. Dudgeon (in his *Lectures*) says :—

> "Believing as I do, that it is greatly for the interest of homœopathy that it should have a scientific pathological basis, *which it must be confessed was not procured for it by Hahnemann*, I have no hesitation in introducing an outline of general pathology, as introductory to our subject."

Again, speaking of the mechanical comparison of symptoms, he says :—

> "Surely this is not the perfection of the medical art we ought to aim at." We ought, he adds, to treat "pathogenetic provings in a thoroughly physiological manner."

Dr. Black says :—

> "In addition to the totality of the symptoms, *the due value* of the symptoms is also to be considered, which can only be arrived at by a correct acquaintance with physiology and pathology. It is an error to suppose that the homœopathic school neglect pathology. *Hahnemann has probably too strongly condemned it.*"

Dr. Henderson, Professor of Pathology in Edinburgh, (in his Reply to Sir James Y. Simpson), opens the first chapter with what he calls "an apology for Hahnemann" for his "contempt for morbid anatomy."

Dr. G. M. Scott (in a paper "On the Special Relation of Pathology to Homœopathy," in the *British Journal*), says:

"So far is it from being true that the practice of homœopathy dispenses with a knowledge of pathology, strictly so called (that is the actual discoverable condition of the morbid parts, as distinguished from theoretical speculations), that the probability of success is precisely in proportion to the completeness and accuracy of such pathological knowledge, in combination with that of the properties of medicines in relation to these pathological conditions."

Our talented colleague, Dr. Drysdale, (in his Introduction to the *Hahnemann Materia Medica*,) expresses his discontent with the present arrangement of symptoms, and then adds:—

"Now this shows us at once the defect and the merit of the ordinary arrangement. On the one hand this arrangement of the symptoms favours that accurate adaptation to the minuter shades of the case of the disease which is before us, which is necessary in homœopathy; while, on the other, it deprives us of that general and connected view of the whole action of the medicine which shows us in what diseases it is to be used at all."

The need of physiology, pathology, and diagnosis is thus strongly felt by a large body of homœopathic practitioners. They also see the need of provings of drugs in health which give the history of each experiment in its natural connection. For when they come for help in this sense to the *Materia Medica* of Hahnemann, they find that it fails them. It was not intended for such uses. It does not and cannot supply this need.

Let us then see what attempts have been made to "treat the pathogenetic provings in a thoroughly physiological manner;" so as to supply materials for this scientific physiological basis of homœopathy;—the basis which Dr. Dudgeon and others believe it should possess.

Dr. Dudgeon himself has given us an octavo, the first volume of a *Pathogenetic Cyclopædia*. This, however, contains only symptoms after the manner of Hahnemann. The object of this book, he says:—

> "Is to furnish the practitioner with a work in which he may at once, and with the least possible trouble, discover whether any and what medicines of our *Materia Medica* contain, in the recorded provings, *symptoms similar to those of the diseases* he is called on to treat."

No attempt is made in this volume to treat the pathogenetic provings in a physiological manner.

Another publication of extraordinary labour and ingenuity, especially in the matter of types and cyphers, has been carried on for some years by Dr. Drysdale and others. It is called *A Repertory; or Systematic arrangement and analysis of the Homœopathic Materia Medica.* But this does not extent beyond symptomatology.

In another work called *The Hahnemann Materia Medica,* Dr. Drysdale has attempted something in the direction we are looking at. He proposes a schema consisting:—

> "Only of *groups of symptoms,* however large or however small, even if consisting of one single symptom, which occurred independently, so that whenever we have a symptom or a group of symptoms to which a number is attached, we shall know that it occurred alone; and otherwise the individual was in perfect health."

Dr. Drysdale has arranged one medicine, the *bichromate of potash,* in this manner; Dr. Dudgeon has done the same for *aconite;* and Dr. Black for *arsenic.*[1]

In France, *The Homœopathic Materia Medica, arranged systematically and practically*, by M. Teste, gives us *groups of drugs* which are associated together as having more or less affinity with each other in their action. He has made twenty groups, each headed by a typical remedy, *e.g.*

Type—Arnica.
Analogues. Ledum palustre.
Croton tiglium.
Ferrum magneticum.
Rhus toxicodendron.
Spigelia anthelmia.

Other attempts have been made, but the most considerable effort yet put forth in this direction is that by the *Austrian Proving Society*, which undertook the reproving of some of the best-known medicines, and published these as *Materials for the Physiological Reconstruction of the Homœopathic Materia Medica.*

It is well known that Professor Acland, in the old school, has lately proposed the proving of drugs to the British Association for the Advancement of Science, and to the Medical Council; and an attempt has been made by some of us to form a society for this purpose, which should comprise members of both schools, but as yet without success.

Moreover, many *pathological hypotheses* have been put forward by writers on homœopathy, particularly in Germany. A history of these, and of their several refutations, has been given us in so much detail by Dr. Dudgeon (in his *Lectures*), that no one else could attempt it at present without exposing himself to the charge of plagiarism. At the close of this account, he says:—

> "Having freely criticised the opinions of my predecessors, I do not hesitate to take my turn on the oracular tripod, and to submit my theoretical views to the judgment of my colleagues."

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[1] See Essay XIV, p. 373.

These views, as Dr. Ryan has lately observed, are identical with those contained in the *Lectures on Pathology* by Dr. John Fletcher, of Edinburgh, who was not a homœopathist, and which have recently been again put forth, with much ability, by Dr. Reith, of Aberdeen.

It is plain, then, that many homœopathists are not content with symptomatology alone; that they are pursuing the law of similars under this its second definition; that many suggestions as to the action of particular drugs have been made; and that there have been many attempts to frame a theory; but what has been accomplished?

In the writings of homœopathic physicians we frequently meet with a reference, in general terms, to physiology and pathology, and some individual facts have been pointed out which belong to these subjects; but no system, nor even any special pathological *basis* of a system, has yet been generally received or adopted by this section of the medical profession. This, I am sure, they will admit. The fact is that writers on homœopathy, and practitioners also, are confused and inconsistent on the subject. The same authors at one time insist upon attending only to the totality of the symptoms, and at another speak of pathological conditions as if they were the chief features to be observed. And even those who are stout in refusing to acknowledge in words pathological considerations, in their practice, as I have noticed, often really think, and sometimes speak, of organs—as the liver, the kidney, the brain—as if they were prescribing specifically for diseases of these organs.

How is this self-contradiction to be accounted for? Dr. Dudgeon tells us that Hahnemann used to say, "He who does not walk on exactly the same line with me—who diverges, if it be but the breadth of a straw, to the right hand or to the left—is an apostate and a traitor, and with him I will have nothing to do." Is it to save appearances, and that they may still be considered disciples of Hahnemann? And may this be the reason why the meaning of the word "symptom" has been stretched till it includes both the disease and its seat, so that the sign and the thing signified are confounded together?

Now, it is well for men to understand their position; and, if they think themselves right and in the path of duty, then with a good grace to accept it. All physicians who advocate pathological knowledge in the practice of homœopathy are, in Hahnemann's sight, "apostates and traitors, and he will have nothing to do with them." They must well understand this, and if they will still be pathologists, let them, by all means, be content to be apostates and traitors. I think they are right.[1]

In one of the earlier Essays this second definition of homœopathy was expressed in these words:—

> "Every material poison (*i.e.* drug or medicine) gaining admission into the healthy body has a tendency to produce a diseased condition, evidenced by symptoms or physical signs, more or less peculiar to itself; and every such poison is the most appropriate remedy for a similar diseased condition which has arisen from other causes."[2]

I think there can be no doubt that if a true physiology and a true pathology, both as regards diseases and drugs, could be attained, the view set forth in this definition, when practically carried out, would be the highest attainable perfection of therapeutics. It would not, indeed, enable us to cure every disease, nor always to prolong life, but it would justify, to a far greater extent than it has yet been justified, the favorite expression: "Everything has been done for the patient which could have been done."

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[1] If the account given of the present state of the pathological section of homœopathists is a representation more meagre than the truth justifies, I shall feel indebted to any one who will furnish me with the information necessary to correct it. (1868.)

[2] Essay VI, p. 153.

Unhappily, the following difficulties stand in the way:

1. A physiological difficulty. This arises out of the fact that, though encouraging progress has been made, specially since the discovery of the circulation of the blood by Harvey, physiology is stiil often doubtful and imperfect. Our physiological knowledge is not nearly so far advanced as our anatomical. We know the structure of several organs much better than we know their functions; and even in regard to those organs with whose functions we are tolerably well acquainted, we are much in the dark as to the manner in which these functions are performed.

2. A pathological difficulty. If we are ignorant of the healthy function, it is unavoidable that we must be in doubt as to the disordered function; and when we know the function, but do not understand the mode in which it is performed, we cannot know the mode of its diseased action.

3. Hahnemann's provings of drugs. The form in which we possess these is so opposed to pathological considerations that it is very difficult to use them for a pathological purpose.

4. The deficiency of re-provings. The drugs which have been re-proved, and some others which have been added since Hahnemann's time, are in a better condition to be used for this purpose, and this list will be gradually extended, but at present it is a small one.

5. But if the re-provings were even tolerably complete, though this would be an immense advance upon our present position, and one which is greatly to be desired, yet, so long as physiology and pathology are imperfect and doubtful as regards the diagnosis of diseases, they must also be imperfect and doubtful as regards the provings of drugs.

It follows, therefore, that not only must the provings of drugs in health be arranged in a different form, but that also the auxiliary sciences of physiology and pathology must be further advanced before we can have, as a matter of fact, a *pathological system* of therapeutics.

It is in the hope that this desirable end will one day be attained, that what may be said under the third definition of the law of similars is respectfully offered. It is not proposed as a finished system, but as a preliminary step, as, in fact, what it professes to be, *a basis or foundation upon which a physiological and pathological structure may afterwards be erected.*

"Every part of science," said Cullen, a century ago, "is still imperfect, and must for ever remain so, if attempts be not made to improve it."

Many attempts to improve the medical sciences have been made, both before this was spoken and since. Among these attempts that made by Hahnemann is one of the most conspicuous. The great merit of Hahnemann, to my mind, is the vigorous and sustained effort made by him to experiment with medical substances, upon himself and upon his friends in a state of health. No lover of justice will ever refuse to accord to him, cheerfully and heartily, this great merit.

Moreover, the remarkable results of these experiments, and the remarkable form in which they are given to us in the provings contained in his *Materia Medica* and *Chronic Diseases*, will, I firmly believe, long remain available and useful in practice, whenever we are compelled to have recourse to symptom-treatment. But additions of the same kind are not to be wished for. If further improvements are to be made, they are not to be made in this direction; for, as Dr. Drysdale asks, "are we merely to pick out all the fresh symptoms [of new provings], and incorporate them with Hahnemann's schemas [which has already been too much done], and thus overwhelm them with a fresh load of details *which would put the finishing stroke to the already almost insuperable difficulty of learning the general action of the medicine when described in that way?*"

No: it is not in this direction, but in some other, that we must seek to bring the practice of homœopathy nearer and nearer to perfection. To do our duty as others have done theirs, we must each of us do our best. This sometimes may not amount to much; in my own case I am conscious that it amounts to very little; but every one must do something, so that we may be able to adopt the language of Sydenham:—"Nevertheless, how great soever the efforts of others may have been, I, for my own part, have always considered that the breath of life would have been to me a vain gift, unless I, working in the same mine with them, contributed my mite to the treasury of physic."

What then, in our present circumstances, are we to aim at? Not to help symptom-treatment, though we are not to discard it. When we look at the ample provision for this in the Materia Medica now possessed by homœopathists, it seems to be a full vessel; before more can be put into it some must be poured out. This is true not only of new symptoms, but of new remedies also; in order to use these some of the old ones must be laid aside.

But we are, if we can, to help *pathology*. This is the direction in which to search for a further improvement of therapeutics. At present this department of knowledge in all medical schools, new as well as old, is a dark and troubled sea, and those who are sailing upon its waters are tossed about and have no compass.

To such medical practitioners as are conscious that pathological therapeutics are in this condition, the following suggestions are respectfully offered. For, it seems to me, that if we will first labour to perceive the *localisation* of disease and of the action of drugs, we shall then be in a better position to pursue our enquiries into the pathological actions, or the changes of functions and structure, produced both by diseases and by medicines.

Let us then consider the third definition of the law of similars.

The disease and the remedy must affect similar organs.

Similarity is here changed into identity. To me it is a fact of daily observation, that diseases, at least in the beginning, do not visibly affect the whole body, but certain parts in preference to others; and it is another fact, that drugs, in a similar manner, are appropriated by certain parts of the body, and act upon them in preference to others. Some organs take one drug, and are affected by it; other organs take another drug, and are acted upon by it. The action of the causes of disease and the action of drugs are alike in this—the action of both, in the beginning if not to the end, is local or partial. Whatever hypothetical objections may be raised against this statement, I am persuaded that it is practically true.

From these two facts two opposite rules of practice have been drawn. The first, that drugs are to be prescribed for diseases of those parts upon which such drugs are known to have little or no action. The second, on the contrary, that they are to be prescribed for diseases of those parts upon which such drugs are known to have the power of acting, or for which the parts affected by disease have a known affinity.

The first rule directs us to avoid the diseased organs, and to act upon the healthy ones.

The second rule directs us to avoid the healthy organs, and to act upon the diseased ones.

The first practice produces an artificial ailment in addition to the natural one, and is called acting indirectly by revulsion or counter-irritation.

The second practice leaves the healthy parts of the body undisturbed, and aims at curing the diseased parts by acting directly upon them.

Both are inferences drawn from the two facts of local action just now stated. They are in antagonism with each other. On the face of them the first appears to be wrongly drawn, and the second rightly; the first can be submitted to only as a painful necessity, the second commends itself at once to the unprejudiced mind. Success or failure in practice must decide whether this judgment is true.

The first method comprises a large part of the usual medical practice. It was very explicitly insisted upon by the late Dr. Armstrong, in his *Lectures on the Practice of Physic.*

To explain and to advocate a trial of the second method is the object of this Essay.

It is true that the division of diseases into two classes, called "general" and "local," is that commonly adopted. It is the division adopted in the last *System of Medicine* published. In this book Dr. Russell Reynolds divides diseases into—1st. Those in which the whole organism appears primarily and prominently deranged; and 2nd. Those in which special organs, or systems of organs, are in like manner affected. But, as if to show that this division amounts to nothing practically, he gives us influenza, diarrhœa, dysentery, cholera, mumps, croup, and hooping-cough in the first class, as general and not local diseases; diseases in which the whole organism is primarily and prominently deranged!

In the same manner drugs have been divided into two classes, namely, those which act generally and those which act locally. Paracelsus and Rademacher, men with whom few can sympathise, are adduced as having specially put forward this view. To show the entire absence of practical value in such a division it is sufficient to mention the three drugs which Paracelsus specified as having a general action, or, to use his own words, as being universal remedies, and to which it is said Rademacher owned that he was not able to add a fourth. These universal remedies were *copper*, *iron*, and *nitrate of soda;* drugs which, it is well known, are characterised by local actions in the same manner as all other drugs are characterised.

I repeat, therefore, that the causes of disease attack, in the first instance, certain parts of the body in preference to others; and that drugs, in like manner, affect certain parts of the body in preference to others; and the practical rule recommended to be drawn from these two facts is, that drugs are to be prescribed for diseases of those parts upon which they are known to have the power of acting.

If this rule be adopted then an *anatomical basis of therapeutics* is established. This is the most certain and stable foundation which can be laid.

It is to be remembered that this is a *foundation* only, and that upon it a superstructure has to be raised. This implies that whatever advantages can be obtained from the two previous definitions of the law of similars are available. When the locality is determined, then there arise physiological and pathological questions, which, perhaps, may be studied in future Essays; and when these are answered, then the individual symptoms of each case present themselves for consideration.

And, when a case comes, in which our anatomy is at fault, perhaps our physiology may help; but if both fail, then we are compelled to be guided by the symptoms alone.

I am persuaded that when this notion is rightly apprehended, it will commend itself to every unprejudiced and thoughtful mind.

But it is reiterated, again and again, that diseases are not all local, nor is the action of all drugs.

Now let us think. When we have enumerated all the diseases of the digestive organs; of the respiratory organs; of the blood and its circulation, and the organs belonging to them; of the brain, the spinal cord, and the nerves, cerebral, spinal, and ganglionic; of the organs of the senses; of the glandular apparatus, the secreting and excreting organs; of the reproductive organs; of the bones, joints, and muscles, and their appendages; of the cellular membrane; and of the integuments; — diseases necessarily and undeniably local—what remains?

And when we have counted all the drugs which act upon one or more of these sets of organs, in preference to others, how many remain?

Why then may we not conclude that all diseases are local, or, to use another word, partial? And that all drugs have a local or partial action? And why may we not make the search after the seats of disease and the localities of the action of each drug our first pursuit?

Again it is contended that, even if diseases are local, "it would puzzle Œdipus himself to tell which was the organ whose derangement caused the array of symptoms they present." Perhaps Œdipus might be puzzled, but a physician of ordinary ability and education, who takes all the pains he ought to take, will not often be unable to arrive at a satisfactory diagnosis. It is granted that this will occasionally happen, but it is contended that the proportion of these unknown cases in daily practice is small; and that further pathological investigations will discover them, and add them to the list of those already known.

Any physician may convince himself that the proportion of unknown diseases is practically small, if he will make a list of the cases he has himself treated during a given time—suppose a hundred cases—and ascertain the percentage in which he has not been able to satisfy himself as to the organs primarily or principally affected. He will see, in this manner, how few cases there are in his daily practice concerning which he is obliged to confess that he cannot tell *where* the ailment is.

It is possible, then, to lay an *anatomical* basis of therapeutics; and it is easier to lay this foundation than any other.

This basis, like other foundations, will have four sides.

On the first side these words may be engraved:—

> Diseases have a seat or locality; to be ascertained in each case by a careful diagnosis.

On the second side:—

> Drugs have a local action; to be learned in respect to each by experiments on the healthy.

On the third side:—

> Drugs, to act remedially, must be so selected as

to act upon the same organs as the disease has affected.

On the fourth side :—

These drugs must be given in such quantities only as will bring about a cure without producing other visible effects.

Looking at the first side, diseases are local and not general. This is distinctly proved by the examples produced by those who hold the contrary opinion. If influenza, diarrhœa, dysentery, cholera, mumps, croup, and hooping-cough are "general" and not local diseases—not diseases of "special organs, or systems of organs"—what other ailments are so? Even specific fevers, which seem to affect the body more extensively than other morbid conditions, are evidently, in the first instance, diseases of the blood only; the affection of other parts following in succession.

It may be worth while to allude to a few cases of almost sudden death, which occur during the prevalence of some epidemics; as, for example, of scarlet fever, or of cholera. These are either cases in which the nervous system receives a sudden shock, perhaps akin to that produced by lightning, and from which there is no rally; or they are cases of virulent blood-poisoning, like that caused by the bites of some serpents, against which also there is no reaction, no struggle for life. It is obvious that these are partial or local affections, for the nerves and the blood are parts only of the body; but it has to be acknowledged with grief that in these cases all known remedial measures are powerless.

There is then not only sufficient evidence to prove that diseases are local, but there is none at all on the other side; and it is contended that it is best to notice in every case, the parts of the body which are most disordered or diseased; and in prescribing, to act directly upon these parts. I offer no explanation; I do not speculate on the reason why, but am content to state the fact. Sickness and death are painful and solemn facts; and everything which is thought or said in their presence should be serious and true. For practical purposes all diseases are local.[1]

With regard to the second side, that of drugs or medicines; one example will explain what I think we need for each of them. For this purpose I cannot do better than give you the admirable summary of the physiological action of the *bichromate of potash* drawn up by Dr. Drysdale, who was himself the prover of it. It is an account of the local action of a drug as complete as we are likely to obtain :—

"This substance may be classed as a pure irritant to the organic tissues. It does not appear to act directly on any of the functions of animal or organic life—except, perhaps, to a certain extent on those of the stomach—but only indirectly through its action on the tissues that compose the organs. Its action is of a profound and intense character, producing inflammation which goes on to the formation of morbid products, even in parts on which it acts only by sympathy. The specific tendency of its action to certain organs and tissues is well marked, and much more circumscribed than that of *arsenic* or *mercury*. Its influence is confined almost wholly to the tissues of organic or vegetative life, and is most marked on the mucous membranes of the stomach and bowels, and of the air passages and nose; next the eyes; then it affects, with about equal intensity, the skin, the liver, and the kidneys, and lastly the fibrous and muscular tissues, and the periosteum, and probably the bones. It seems to have little or no specific relation to the serous membranes, to the genital organs of either sex, to the cerebro-spinal nervous system (except neuralgic affection of certain individual nerves), or to the mind.

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[1] It can scarcely be necessary to remark that the terms "local diseases" and "local treatment," used in these Essays, are not to be interpreted in their *surgical* meaning; they do not refer to topical or external applications. Congestion of the veins of the brain is a local disease, and if *opium* is given for it that is a local remedy, and its action is on the part diseased. When *cantharides* are prescribed for strangury, the disease and the action of the remedy are both local; and it is the same organ which is affected by both.

"Its action is rapid, and also long continued—even after the moderate doses of the provers its action could be traced beyond four weeks after the last dose was taken. When swallowed in dangerous doses, the effects have been known to last in a serious form for four months."[1]

Such is the series of local actions given us of this drug. It is worthy of notice that Dr. Drysdale has headed the statement with the words "general action." This is another expression which requires better definition and more careful use, to prevent misunderstanding and needless controversy.

It appears to me that the words "general action," cannot be used with propriety with reference either to diseases or to drugs. There is no evidence to prove a general action of either. Some diseases and some drugs have local actions upon several organs; but, when the word general is used in opposition to local, no number of local actions can become a "general one."

Dr. Drysdale has given us an excellent summary of the various local actions of *bichromate of potash;* some medical men are disposed to add one or two more; but if several more were added, the whole would still remain only a catalogue of "local" actions: there is no general action, in the proper sense of the term, connected with any one of them.

With regard to the third side of the foundation. We are to select such drugs, in prescribing, as are appropriated by the organs primarily and chiefly diseased. The difference between this method, and that of mere symptom treatment may, perhaps, be better illustrated by an additional case or two than by a lengthened explanation—illustrated, not proved—the proof of the truth and wisdom of the rule must be sought for by each physician in his own practice.

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[1] 'Hahnemann Materia Medica,' p. 36.

Spigelia, and its action on the heart and brain.

Neuralgia.

Mrs. —— "suffers very much from headache, is scarcely ever one day free from it; it is no new affection, she has been troubled with it for years; a wind invariably brings it on; it is never relieved by going into the fresh air, but generally made worse; she has no trouble with stomach, or bowels, or other organs, except the heart; suffers from palpitation, which is brought on by going up stairs, or by excitement. The pain comes on in fits for an hour or two at a time; some days it comes on waking, and again after breakfast, and in the evening; other days not until towards dinner time; but it is quite an event to be one day free from pain; she cannot remember such a day for months. The pain is not stationary; it is frequently just above the eyelids, in the bone under the eyebrows; sometimes it is in the nose, and in the cheek bones; then at the top of the head; sometimes at the back of the head; and often, shooting from one temple to the other; it is a pain very bad to bear."

This was a letter from a distance. I did not see the patient, but it appeared to me that the condition of the heart might be the principal cause of the suffering, and this suggested *spigelia*, which was given, to be taken night and morning.

After three weeks, the report is, "feels much better; head really bad only one day all the time." Medicine continued.

After another month, "has received very great benefit." Medicine discontinued.

No medical treatment had been of service in this case before; a year has elapsed since, and she has had very few returns of the pain.

Bismuth, and its action on the spine.

Asthma.

Miss —— for several years has suffered very much from asthma, for which she has had a great deal of advice. The fits come on from very slight causes, and are alarmingly violent, almost amounting to suffocation, and lasting for several hours; the intervals between the fits are of uncertain duration, sometimes of a day only; occasionally the attack more resembles bronchitis or pneumonia. She has had homœopathic treatment frequently, from which she has derived benefit. She has lived in different parts of England, some airs appearing to suit her better than others, still the attacks have always returned after a longer or shorter time. In a letter dated June 15, 1868, after describing these sufferings, she adds: "I can *never* rest flat on my *back* for more than ten minutes without its immediately affecting my breathing, and making it heavy and wheezing. Also, if during a severe spasmodic attack, a hand is firmly placed on my spine (just in the right spot), my breathing is instanly quieted and very much relieved." As I did not see her, I could not ascertain which were the vertebræ which were described as the "right spot," but I could not doubt that the primary ailment was not pulmonary but spinal, and *bismuth* was prescribed to be taken three times a day.

More than a month afterwards, on July 18, she wrote as follows:—"The powders that you sent suited me admirably, and I have been so well since that I have not written, as there seemed no necessity for more medicine. Now, however, the effect has a little past off, and I should be very glad to have some more of the same medicine. After the first two spoonfuls I could lie down on the sofa quite easily, and have had good nights ever since, though I have been obliged, every now and then, to eat an indigestible dinner. I have also been free from sick headache, and from any feeling of fainting."

I have not heard again, but should have done had the attacks of asthma returned.

With regard to the fourth side of the foundation, which is dedicated to the dose. All medicinal substances being necessarily more or less of a poisonous nature, it is the dictate of common sense that, when these substances are used as remedies, no more of any of them should be given than is sufficient to effect a cure. Daily experience testifies that this can generally be done, and that the violent effects of drugs—the effects of medicines as commonly given—so far from being necessary, are injurious.

Let it not be supposed that I underrate the question of the dose, because hitherto less has been said about it than about the principle. It is necessary to investigate these questions separately, and it is for the interests of both that the question of the principle should take precedence of that of the dose, and be settled first. Afterwards, the dose will have a claim to the same serious attention.

Such is a brief outline of the third definition of the law of similars, that the disease and the remedy should affect the same organs, and for which the name of *Organopathy* has been proposed.

The difficulties which, at present, stand in the way of the adoption of this rule, as a basis of therapeutics, or the objections which have been raised against it, are chiefly two:—

1. The first applies to disease, and asserts that "most diseases do not appear to be localised in any one organ."

This difficulty has been anticipated, and already sufficiently considered.

2. The second applied to drugs, and] the *Materia Medica* of Hahnemann. A lay gentleman met me, the other day, and stopped me to say, "I have read your last Essay (*Organopathy*) with very great interest; it seems to speak the truth; but then *Jahr* will be of no use!" This remark shows how intelligently the Essay had been read; for though the *Materia Medica*, (Jahr is a collection of Hahnemann's and of some of the additions which have been published since), would still be retained, and be referred to by medical men, pathology, or disease as distinguished from symptoms, would in future take precedence of it, and this is a source of knowledge scarcely accessible to laymen.

This altered position of the laity would, however, be cheerfully acquiesced in by them, when it was found that the old confidence in the family medical adviser would not only again be needed, but would again be justified, as formerly, by a better acquaintance with their ailments, and with the remedies to be used for them, than they could aspire to.

An argument of another kind has been advanced, but which scarcely deserves notice. It has been said that as astronomers do not complain of endless additions to their catalogues of stars and planets, nor zoologists of the frequent addition of new animals, nor entomologists of new insects, nor botanists of new plants, so homœopathists ought not to object to an endless addition of new symptoms to the provings of drugs.

A little consideration will show, and a little candour will acknowledge, that there is no analogy between the occupations of the astronomer and the naturalist, and those of the physician. The former busy themselves in simply making observations, and when these have been recorded they are only occasionally referred to. The latter makes a register of the effects of drugs, which is to be retained, as far as possible, in his memory, so as to be a practical guide to him, day by day, while prescribing remedies at the bedside of the sick.

It has also been objected that this basis of therapeutics is defective, inasmuch as it contains no reference to the different *kinds* of action of drugs; and so makes it doubtful whether they are to be prescribed homœopathically or antipathically. It should be sufficient to remark in reply, that this is a question which belongs to the superstructure, and not to the foundation. It has not been reached yet; I hope to arrive at it in due time. In the meanwhile, nothing which may be said with respect to it can affect the foundation which underlies it.

Having now endeavoured to survey this subject a second time, with all the care and freedom from prejudice I am able to command, the conclusion is again arrived at that, of the different foundations which have been proposed for therapeutics, an *anatomical* one is the easiest, and safest, the most practical, and the one likely to be the most permanent, and so, in every way, the best.

It is, nevertheless, not to be forgotten that this is a foundation only.

ESSAY XIX.

THE ACTION OF DRUGS.

"I will follow that system of treatment which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous."

HIPPOCRATES. *The Oath.*

ANALYSIS.

In what way is the action of drugs to be discovered?

1. Drugs have been regarded superstitiously.
2. They have been viewed astrologically.
3. They have been studied with reference to their sensible properties, such as form and colour, taste and odour.
4. They have been studied chemically;
5. Mechanically;
6. Botanically;
7. Pathologically;
8. Empirically;
9. And for their indirect action.
10. By experiments on animals.
11. By experiments on the sick.
12. By experiments on the healthy.

Conclusion.

ESSAY XIX.[1]

THE ACTION OF DRUGS.

> "It is a part of science to make judicious enquiries."
>
> LORD BACON.

THIS subject comprises several questions, among them the following:—

I. In what way is the action of drugs to be discovered?
II. What is the action of drugs?
III. How is the action of each drug to be distinguished from that of all others?
IV. What is the kind of action of drugs?
V. What is the action of small doses?
VI. Is there a law for the dose?

PART I.

In this Essay the first question is considered:—

IN WHAT WAY IS THE ACTION OF DRUGS TO BE DISCOVERED?

Nothing more clearly betrays the extent of the weakness and infirmity into which the human mind has fallen than the perverted ingenuity it has shown, and the mistaken ways it has followed, in respect to the ends at which it has aimed.

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[1] First published in 1873. Partly read at a Congress in York in 1872.

On most, if not on all subjects which man's mind has attempted to investigate, many erroneous methods, perhaps all possible ones, have been pursued before the true method has been found.

We shall see an eminent illustration of this fact if we now consider the action of drugs, and take up the first question proposed, namely, in what way is the action of drugs to be discovered?

If we look back through the avenue of five-and-twenty centuries, we shall find that the knowledge of the action of drugs has been sought for in very various ways. We shall see that some of these ways are manifestly wrong, and that the rest are more or less imperfect. The orthodox school of medicine acknowledges that all have failed.

Let us briefly examine these ways.

1. *Drugs have been regarded superstitiously.*

Every kind of virtue has been attributed superstitiously to the action of drugs. They have been given with incantations of every character. They have been worn as amulets and charms of every form, and of every material. And these things have been done in all ages, and in every country, to avert or to remedy disease. Alas! that such a method of discovering the action of drugs should have existed, should still exist in the world. It is checked only where, and so far as, the influence of pure Christianity is felt.

We may dismiss the further consideration of it here; but we should not do so without a blush; for we may well blush for the ignorance, for the folly, and for the sin which all such practices reveal.

2. *They have been viewed astrologically.*

For many centuries a belief has been maintained that the action of drugs is under the government of the sun, moon, and stars.

All the details of this misbelief are given with perfect good faith, and with entire confidence, so lately as the middle of the seventeenth century, in one of the most popular medical books of the time—by "popular" I here mean among medical men; this is the *Pharmacopœia* of John Shröder. (1656)

From the ninth chapter of this celebrated book, "De influentiis Stellarum"—a book, let me again observe, received and used by the orthodox physician of the time—we may learn the puerile story of the "star-gazers."

A short extract will show the character of the statements:—

"*Saturnus* est planeta malignus, diurnus, masculinus, summè frigidus, Martis amicus, reliquis inimicus; *lieni* microcosmo correspondens.

"Res Saturninæ—plumbum, antimonium, aconitum, cannabis, agnus castus, hyoscyamus, helleborus niger, opium, sabina, &c.

"*Jupiter* est planeta benevolus, moderatè calidus, &c., *epati* correspondens.

"*Res Joviales* sunt stannum, argentum, berberis, mentha, quercus, symphitus, &c.

"*Mars* est planeta summè calidus, atque siccus, &c.

"*Res Martialis* sunt cinnabar, arum, carduus, plantago, urtica," &c.

And so through the planets, and also through the twelve signs of the zodiac.

These fancies having been received and assented to by the profession until times so recent, it is not wonderful that they still survive in "Culpepper's Herbal."

This starry method of discovering the action of drugs is wholly destitute of proofs; indeed, it rests upon the wildest conjectures. It may be dismissed without hesitation, notwithstanding its prevalence and popularity, as altogether erroneous and wrong.

3. *Drugs have been studied with reference to their sensible properties, such as form and colour, taste and odour.*

From the form and colour the "doctrine of signatures" was invented. Those who taught and practised according to this doctrine believed that "every natural substance which possesses any medical virtue indicates, by an obvious and well-marked external character, the disease for which it is a remedy, or the object for which it should be employed."

Dr. Paris,[1] from whom I have copied this definition of the doctrine, observes that "traces of its existence may be discovered in ancient authors . . . . . but the conceit did not assume the importance of a theory until the end of the fourteenth century, at which period we find several authors engaged in the support of its truth." Dr. Paris then gives several examples of the doctrine; such as "*Turmeric*, which has a brilliant yellow colour, which indicates that it has the power of curing the jaundice; for the same reason *poppies* must relieve diseases of the head; *agaricus* those of the bladder." &c., &c.

Dr. Dover, writing on jaundice, in 1732, has this paragraph :—

"Paracelsus, in his treatise *De Signatura rerum*, very much commends the inner bark of barberries, turmerick, rheubarb, and all plants of a yellow cast, in the cure of this disease. But they are too weak, as has been sufficiently experienced long since. He likewise commends the *arbor tremula* in agues; the *pulmonaria maculosa* in consumptions, *trachelium* in sore throats and quinseys, and so goes on. I mention this to show on what weak foundations we often venture our lives."[2]

The unsatisfactory nature of conjectures like these is, happily, now well acknowledged; and it is not necessary to pursue the subject further, either in the way of explanation or of refutation.

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[1] 'Pharmacologia' (1820), p. 34.

[2] Ibid., p. 44.

Nor can much that is less unsatisfactory be gathered from the taste and odour of drugs. A bitter taste has long had associated with it the idea of a tonic. A disagreeable odour has been supposed to indicate that the drug which is so distinguished is a remedy for hysteria.

It need scarcely be remarked that such indications as these are very little, if at all, better than those gathered from form and colour.

4. *Drugs have been studied chemically.*

Chemistry is an enchanted castle. When a man has once entered its captivating chambers it is seldom that he has even a desire to escape from them. The stress of circumstances or the sense of duty must be mighty indeed to drag him out of them. No wonder that medicine has been more than once made a prisoner in this castle, at one time by medical chemists, at another by chemical physicians.

Chemistry had its origin in cupidity. The dream of the alchemists was the transmutation of that which was base into that which was noble—in plainer English, the conversion of lead into gold—the cheaper into that which was worth most. The votaries at this altar of lucre sacrificed themselves; and the only recompense of their wasted time and misemployed talents was hopeless disappointment. Mankind gained from them the invention of furnaces, retorts, alembics, and other useful apparatus, since employed to better purpose.

In its aspect towards medicine chemistry has passed through three phases. First, as an art, in the hands of the alchemists, who spent much of their strength in experiments to discover the elixir of life. Secondly, as a science, in the hands of the physicians who were its discoverers and founders. Thirdly, as a theory, in the hands of modern medical and non-medical chemists, who have laboured with much zeal to establish a chemical physiology, a chemical pathology, and a chemical therapeutics.

We need not be detained by the labours of the alchemists, notwithstanding that great names are among them: such as Hermes Trismegistus, Geber (hence gebrish or gibberish), Albert of Cologne, Arnold of Villanova, Raymond Lully of Majorca, and even Isaac and John of Holland.

The physicians who discovered chemistry as a science succeeded in laying a foundation upon which a noble edifice has since been erected; but they failed in their application of chemistry to medicine. Their physiology was fermentation; their pathology was an excess of acid or alkali; their therapeutics, neutralisation.

It had been found that drugs refused to reveal their hidden virtues by their external features of form and colour and taste and odour; and it was seen that a further examination of them must be made. They were therefore put into the fire; a sort of torture which it was expected would compel them to confess. Hence these physicians — the iatro-chemists — were nick-named "furnace philosophers" by the iatro-mechanics of the next age. Basil Valentine of Erfurth, Van Helmont of Brussels, Glauber of Amsterdam, Sylvius of Leyden, and Thomas Willis of London, are eminent names as the founders of chemistry and its application to medicine. They fought a hard battle with the Galenists or orthodox physicians of their time, the rude blows of Paracelsus both helping them and hindering them. We have relinquished their medical hypotheses; we have retained a vast number of their chemical remedies.

The efforts of modern chemists claim a larger share of attention, and among these one non-medical name stands pre-eminent, that of Baron Liebig. It is necessary to notice some of his views with care. On the subjects of physiology and pathology briefly; on those connected with therapeutics more fully.

One or two sentences applicable to each of the former will be sufficient to show how completely chemical are the physiology and pathology of Liebig. With reference to the first he says:—

"Viewed as an object of scientific research, animal life exhibits itself in a series of phenomena, the connection and recurrence of which are determined by the changes which the food and the oxygen, absorbed from the atmosphere, undergo in the organism under the influence of the vital force.

"All vital activity arises from the mutual action of the oxygen of the atmosphere and the elements of the food."[1]

In pathology Liebig's "theory of disease" is as follows:—

"Every substance or matter, every chemical or mechanical agency which changes or disturbs the restoration of the equilibrium between the manifestations of the causes of waste and supply in such a way as to add its action to the causes of waste, is called a *cause of disease*. *Disease* occurs when the sum of vital force, which tends to neutralize all causes of disturbance (in other words, when the resistance offered by the vital force) is weaker than the acting cause of disturbance.

"A deficiency of resistance in a living part to the causes of waste is obviously a deficiency of resistance to the action of the oxygen of the atmosphere."[2]

So, health is the chemical equilibrium between waste and supply; disease is the chemical disturbance of this equilibrium. At the same time Liebig admits the existence of a vital force distinct from chemical affinity.

A careful student of physiology and pathology will not find it difficult to discover that this hypothesis, though it brings to his notice a crowd of interesting and valuable facts, for which he will be grateful, is far too contracted and one-sided to embrace and explain either the operations of healthy life, or the phenomena of disease.

We now arrive at our own department, therapeutics and drug-action, and must go a little more into Liebig's details.

He gives the following classification of drugs:—

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[1] *Animal Chemistry*, by Justus Liebig, edited by Dr. Gregory, p. 9.

[2] Ibid., pp. 254, 256.

"Medicinal and poisonous substances form a most extensive class of compounds, the elements of which are capable of taking a direct or indirect share in the processes of secretion and of transformation.

"They may be subdivided into three great orders.

"The first (which includes the metallic poisons) consists of substances which enter into chemical combination with certain parts or constituents of the body, while the vital force is insufficient to destroy the compounds thus formed."

It will be observed that the metallic salts are here intended; and, with the exception of nitrate of silver and one or two others, as surgical applications, this order may be altogether dispensed with in medical treatment. They need never be given in such doses as shall distinguish them from the third order by their having any *chemical* action.

"The second division (consisting of the essential oils, camphor, empyrheumatic substances, and antiseptics) possesses the property of impeding or retarding those kinds of transformation to which certain very complex organic molecules are liable; transformations which, when they take place out of the body, are usually designated by the names of *fermentation* and *putrefaction*."

We are here reminded of the chemistry of the 17th century. It seems to me that this description is a misapplication of terms, which can only increase obscurity and misunderstanding.

"The third division of medicinal substances is composed of bodies the elements of which take a direct share in the changes going on in the animal body. When introduced into the system they augment the energy of the vital activity of one or more organs; they excite morbid phenomena in the healthy body. All of them produce a marked effect in a comparatively small dose."

I apprehend that this division includes all substances which are truly entitled to be called medicinal. And it describes their two sets of properties. As poisons "they excite morbid phenomena in the healthy body;" and as remedies "they augment the energy of the vital activity of one or more organs." In other and safer words, as remedies they tend, in the organs where their actions take place, to diminish morbid phenomena, and to restore health. It will be observed that Liebig's words are hypothetical; they give an explanation which is merely a conjecture. To say that "they augment the energy of the vital activity" may be highly poetical language, but it is not the expression of a fact which can be proved. Aconite or digitalis, in certain doses, can bring down the beats of the heart from 120 to 40. Whether, in doing so, they augment the energy of the vital activity of the heart, may be questioned; they certainly diminish very notably its mechanical activity.

Liebig then makes an observation which will be readily agreed to. "None of the substances in this class (of medicines) can be said to take a decided share in the nutritive process, or to be employed by the organism in the production of blood; partly because their composition is different from that of blood, and partly because the proportion in which they must be given to exert their influence, is as nothing compared with the mass of the blood."

He concludes with an endeavour to give a chemical explanation of the action of drugs:—

"Medicinal or remedial agents may be divided into two classes, the nitrogenised and the non-nitrogenised.

"The nitrogenised vegetable principles, whose composition differs from that of the proper nitrogenised elements of nutrition, also produced by a vegetable organism, are distinguished, beyond all others, for their powerful action on the animal economy."

It is not necessary for others to undertake to show that this classification of medicines is of no practical utility to the physician; Liebig does this himself. He goes on to say that

"The effects of these nitrogenised substances are singularly varied; from the mildest form of the action of aloes, to the most terrible poison, strychnia, we observe an endless variety of different actions.

"The medicinal or poisonous action of the nitrogenised vegetable principles . . . cannot be supposed to be independent of the nitrogen they contain, but is certainly not in direct proportion to the quantity of nitrogen. Solanine and picrotoxine, which contain least nitrogen, are powerful poisons. Quinine contains more nitrogen than morphia. Coffeine, theine, and theobromine (coffee, tea, and cocoa), the most highly nitrogenised of all vegetable principles, are not poisonous."[1]

We may, therefore, safely conclude that a chemical theory of the action of drugs, even when attempted by those most competent to give it, is a failure.

Chemical *analysis* has furnished physicians with an immense number of interesting and useful facts. It has made us acquainted with the elements of which organised bodies are constructed. It has taught us that these elements are the same as those which constitute non-organised bodies or minerals: that the vegetable kingdom is the producer of organic compounds: that the animal world is dependent upon vegetables for these organic compounds, as the prepared materials for its sustenance: that during the life of vegetables oxygen is set free, and the atmosphere is replenished with it, and refitted for the respiration of animals: while during the life of animals a continual absorption of the oxygen of the air takes place, and its combination with carbon forming carbonic acid, and with hydrogen forming water, is effected; these compounds of carbon and hydrogen are restored to the atmosphere in expiration, and by them vegetables are nourished. It has also taught us the composition of drugs, and it has separated, in some of them, their active from their inert components. It has, moreover, shown us the presence of many of these drugs, when they have been taken either as poisons or as remedies, in the organs of the body where their action has taken place.

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[1] Ibid., p. 177.

Chemical analysis has made surprising advances towards teaching us, not only the ultimate elements, but also the organic compounds of which vegetable and animal tissues are composed. But chêmical analysis has its limits, and at present it stops just where we wish it could go further. It stops where we cannot but feel sure that it falls short of the objects desired to be attained; and so leaves upon the mind an impression of unsatisfactoriness which is painful. In proof of this, we need only to be reminded of such facts as these:—

The most careful analysis tells us that there is no difference in composition between thein, caffein, and theobromine—the active ingredients of tea, coffee, and cocoa; that the composition of fibrine and albumen is identical; and that it can find nothing in the deadly poisons of serpents which it does not also find in the innocent gum-arabic.

When statements like these are made, the mind simply does not believe them; it prefers to conclude either that chemical analysis is as yet imperfect, or that the solution of such problems as these is not within its limits.

Chemical *affinity* is a mighty power in nature. Within its proper province it acts with irresistible force, and brings about the most surprising changes: sometimes slowly, as in the rusting of a sword, sometimes rapidly, as in the firing of gunpowder. But chemical affinity also has its limits, though they have not yet been experimentally defined. Temperature determines one of its boundaries, as is seen in the manufactures of glass[1] and of steel.[2]

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[1] Chemists speak of glass as a true chemical, and therefore a definite combination, and suppose flint-glass to be a silicate of potash and oxide of lead; crown-glass a silicate of soda and lime; and so of other kinds of glass. But this has not

Heat, indeed, often excites the action of chemical affinity, or brings it into play; but in the instances given, it produces compounds independent of the controlling power of chemical affinity, as that force is at present understood. The components are not combined in definite proportions, and yet the properties of the compounds greatly differ from those of the component parts.

Life has a still greater power in limiting the action of chemical affinity, which, however, it does not destroy nor supersede.

As regards the action of drugs, chemical analysis helps us when we can show the presence of the drug in the organ in which its action has taken place; but chemical affinity renders us no assistance in the investigation of the action.

A final remark on chemistry.

The forces in nature with which we are best acquainted are those of attraction and repulsion. Among attracting forces are *gravitation*, which acts between *all* particles of matter at sensible (sometimes at inconceivably great) distances; *cohesion*, which acts between *similar* particles of matter at insensible distances; and *chemical affinity*, which acts between *dissimilar* particles of matter at insensible distances. Chemistry is the branch of science which occupies itself with the pheno-

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been established by experiment. Many years ago, having at the time free access to, and ready use of, some large glass furnaces, I availed myself of the opportunity to try a series of experiments, in order to test this point. The ingredients were carefully combined in the proportions of their chemical equivalents, coming as near to the empirical proportions used by the manufacturers as calculation permitted. My glass was made at the same time, and in the same furnace as the other. But the glass whose ingredients were mixed by "rule of thumb" far surpassed in all its properties that mixed by rule of equivalents.

[2] Steel, the properties of which, it is well known, differ much from those of iron, is a compound of iron with a variable percentage of carbon.

mena belonging to this last kind of attraction. It is an experimental science. The results of its experiments are surprising and beautiful, and have been made eminently useful to man. When occupied with organic substances, chemistry affords very interesting information to the physician, and puts him under obligations which he should always be ready to acknowledge. But chemistry cannot analyse *living* substances; and, therefore, when it attempts to give a chemical explanation of *living* operations, whether healthy or morbid, it has trespassed beyond its province. Chemistry can teach the physician many interesting things, which he could not otherwise know, concerning the composition of *dead* organic bodies, and can throw light upon *some parts* of living processes; but physiology, pathology, and therapeutics—the functions of life, the aberrations of disease, and the action of remedies—can never be included as chapters in a treatise on chemistry.

5. *Drugs have been studied mechanically.*

The eccentricities of the human mind have been strange, but few have been more strange than that which led physicians to apply the mathematical principles of mechanics to the primary phenomena of living beings; to such actions, for example, as the circulation of the blood by the heart, and the production of the various secretions by the glands.

Men were drawn aside into this path of error by the notion, which has prevailed in all ages, that the progress of medicine is dependent upon the progress of science. Dr. Quincy, a great promulgator of the mechanical doctrines, and the most popular English medical writer of the last century, says:—

"The study of medicine has in all ages been influenced by the philosophy in vogue, because the theory thereof is inseparable from a good competency of knowledge in natural causes. . . . . .

"I say physics (physical science) and medicine, because the latter cannot subsist without the former. . . . . .

"And because what is brought from physics and mechanics takes up so much room here, it may be necessary to inform the reader that there is no knowledge in medicine but by such means. Experience without theory will never make a physician. . . . . .

"If there be anything of science in medicine, it is conducted by demonstration, because conversant with objects cognizable only by the evidence of sense; but without this it is chance and confusion, and the enthusiast and the empiric are upon as good a foot as the scholar and the physician."[1]

This opinion is still adhered to in our time. The conviction is thus expressed by Professor Acland:—

"A profession dependent on science must vary with that on which it depends; and if it does not advance with the advance of science, that fact proves it to be in error."[2]

I am not of this opinion, but believe that the prevalence of it has been a stumbling-block in the way of the real improvement of medicine. This improvement can be brought about only by the study of medicine *per se;* by its workmen quarrying in its own mine. It is not necessary to depreciate any branch of science, and the physician may gladly admit that occasional assistance of a valuable kind may be got from collateral sciences, and further help may be expected as these make further advances; but not one of them can be made a safe basis to rest medicine upon. We have seen how true this is of chemistry. We shall now see that it is equally true of mechanics.

And that not for want of the devotion of talent and labour. The iatro-mechanics of the 17th and 18th centuries, like their predecessors the chemists, were men of great ability, and they took incredible pains in the direction of their research. Borelli, professor of mathematics in the University of Pisa, the founder of the school, Baglivi, called the Roman Hippocrates, and the illustrious Boerhaave were a noble triumvirate on the Continent; nor were Dr. James Keil and Dr. Richard Mead mean representatives in England.

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[1] 'Lexicon Physico-Medicum,' by John Quincy, M.D. 9th ed. 1775.

[2] 'Medicine in Modern Times.' Discourse II, by Dr. Acland. 1869.

It has been readily admitted that chemistry gives the physician very interesting information. It is as readily conceded that mechanics do the same. That the size, form, strength, and situation of bones, and the number, position, power, and insertion in or attachment to the bones of muscles, are regulated with infinite skill upon mechanical principles cannot be doubted. But the attempt made by these eminent men to apply these principles was far more ambitious than this. All the vital processes of the living economy were explained by mathematical formulæ; diseases were an excess of relaxation, or an excess of tension; and drugs acted according to the laws of mechanics, by their spicula and angles, and by their gravity.

To carry out this mechanical hypothesis a vast variety of geometrical diagrams and algebraic formulæ are given. Some of these measure the power of the muscles, others estimate the force of the heart in the propulsion of the blood, others calculate the work done by the glands in the production of their secretions, which is "performed by a composition of two motions, direct and transverse."

Borelli's demonstration of the power of the heart's action brings him to the conclusion that its exercise is equal to the pressure of 180,000 lbs. weight to move 20 lbs. of blood.

Keil gives two different calculations, founded upon two different sets of experiments. The result of one is that the heart's force is equal to 5 oz., and of the other that it is equal to 8 oz.

The outrageous divergency between the demonstration of Borelli and that of Keil arises mainly from the different data taken by each. Borelli treats the column of blood as stationary; Keil as already in motion; "which, how it first came by," says Quincy, "seems out of human capacity to determine."

The difficulty of ascertaining the data from which to commence calculations, which is here made apparent, is a "glaring instance," in the words of Lord Bacon, of what will always be an absolute hindrance to any useful application of mathematics to these subjects. For a mathematical demonstration which shall be reliable, the data must be few and certain. In physiological questions, such as those we are considering, they are not only numerous, but very imperfectly ascertainable, a consideration which should have been sufficient to deter men from pursuing this path.

That the necessary data are too numerous, and of too uncertain a character to be successfully managed by geometry and algebra will be very evident, if the experiments of Keil are briefly related.

"Having uncovered the iliac artery and vein in the thigh of a dog, near to his body, and having passed convenient ligatures under them, he opened the whole diameter of the vein, and received into a cup all the blood which ran from it in the space of ten seconds of a minute; after that the same was done by the artery for the same space of time, and both the quantities of blood were exactly weighed. . . . . . This experiment was repeated, until the quantity of blood which runs from the artery, to the quantity of blood which runs from the vein, was found to be, in the same space of time, nearly as seven and a half to three.

"Now, the velocity of the blood in the iliac artery, so near the aorta, is nearly the same as that in the aorta, and consequently the velocity with which it flows out of the iliac artery cut asunder, is the same with which it would flow out of the heart unresisted;

or the blood runs through a wound in the iliac artery with all the velocity it received from the heart. Now, all the blood which runs along the iliac artery returns again by the iliac vein, and consequently the quantities of blood which pass through both, in the same space of time, are equal. The quantity of blood, therefore, which runs out of the iliac vein cut asunder, is the same which runs through the iliac artery before it was cut, in the same space of time. Having therefore the quantity which runs through the iliac artery when it is cut and when it is not cut, we have their velocities. . . . . .

"Now, if the heart throws out two ounces of blood every systole (as is most probable), then the blood moves through the aorta at the rate of 156 feet in a minute, and, therefore, the absolute velocity," &c.

The mathematical part I need not repeat; it is worked according to the second corollary of the 36th Proposition of the 2nd book of Newton's *Principia.*

The second series of experiments was founded on the properties of the *parabola.* "Upon opening the iliac artery of a dog laid in an horizontal direction, and 28 inches high from the ground, he found that the blood moving in the parabola A.F.C. touched the ground at C., which is about three feet distant from the perpendicular A.B. let fall from the heart." . . . . . The reasoning then gives $1\frac{1}{3}$ of an ounce = force of this dog's heart. "Now, the heart of this dog weighed two ounces; and *hearts being to one another as their weights*, and *supposing* that the weight of an ordinary human heart is 12 ounces, then its force will be almost equal to 8 ounces."

It cannot be necessary to point out how uncertain many of these data are, or how wide of the mark any calculations depending upon them may be. But, besides these, there is one datum strangely overlooked by all these eminent physicians, which, of itself, is sufficient to paralyse every effort in the direction of geometry as applied to living beings. This is the energy of *life*, an energy which admits of no calculation. Though the power of life has limits of its own, it ranges itself outside the boundaries of mechanics, and entirely refuses to submit to be measured by mathematics. Think of the living heart of a body strapped down to a table, and whose iliac artery is cut asunder and is bleeding it to death! Who can calculate the force of its convulsive beats? Who can even compare them with those of the same heart in a state of rest and peace? And how can the force of a *living* human heart be known to be to that of a dog's *living* heart, as the weight of one when it is dead is to the weight of the other when it is dead? Vain, indeed, is such science as this!

But, it will be said, this is physiology; and it behoves us to return to our subject, therapeutics.

The same mechanical principles were applied to all medicinal substances. Dr. Quincy, in his *Dispensatory*, a book as popular as his *Lexicon*, makes this application throughout. Let me give one example, and copy what he says upon *iron*. After speaking disparagingly of the astrologists and the chemists, he proceeds:—

"We shall therefore enquire by what manifest properties this metal comes to afford so much of moment (momentum) in medical preparations. And to this purpose thus far in common may be concluded, as from all other metalline particles, that such as can be mixed with the blood and made part of the circulating fluid, must, of course, by the necessary laws of motion, from their superior gravities, be of great force to break their way where particles of less gravities cannot get through. For mechanics teach nothing more plainly than that the momenta of all percussions are as the rectangles under the gravities and celerities of the living bodies. By how much more gravity, then, a metalline particle has, more than any other particle in the blood, if their celerities are equal, by so much the greater will the stroke of the metalline particles be against everything that stands in its way than of any other not so heavy; and therefore any obstruction in the glands and capillaries will be sooner removed by such particles than by those which are lighter. *This is a way of reasoning which is plain to the meanest capacity.*

"But, if *iron* has this property by virtue of the specific weight of its particles in common with some other metals, it has also a further advantage of being a powerful deobstruent, from the shape of its component parts; for both our taste and sight convince us of their pointed angular forms, especially if we view them in their shoots or crystals, in making the *vitriol* or salt of iron. From the sharp and pointed figures of the particles of iron, will they be efficacious to cut their way through many hindrances."[1]

This is doubtless a sufficient illustration of the mechanical theory of therapeutics of the eighteenth century. But let me also remind my readers of one of the essays of Dr. Mead. It is the first in his collected works, and is entitled, "A Mechanical Account of Poisons," first published in 1702, and finally in 1747. It contains original experiments with the poison of the viper, the "saline spicula" of which do all the damage, in the first edition by pricking the blood, and in the latest edition by pricking the "nervous fluid."

The "Aphorisms" of Boerhaave have much in them of the same mechanical type. He treats first of "the diseases of a simple solid fibre"; then of those "of a weak and lax fibre"; then of those "of a stiff and elastic fibre."

This leads me to a final remark upon the views and principles of these famous men; they were distinguished from those of the ancients, which were humoral, by the prominence given to the solids of the body, and from those of their immediate predecessors, which were chemical, by their mathematics and mechanics.

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[1] Quincy's 'Dispensatory.' 10th ed. 1736.

A few years ago it was said of these mechanical speculations that they exist only in history. This cannot be said now, for they have been strangely revived in our time. It will be necessary, therefore, to notice this revival; and the essays of the Rev. Professor Haughton may be taken as the representatives of this "school of thought."

'Medicine in Modern Times' (1869) contains a discourse "on the relation of food to work," or, "on physics in relation to medicine in modern times," which puts the views of this school very accurately before us.

A few extracts will show what these are:—

"Man and other animals possess a double life, animal and organic, presided over respectively by two distinct though correlated centres of nervous force; of these, one thinks, moves, and feels; the other merely cooks, receiving the food supplied, changing and elaborating it into elements suitable for the use of the animal life." . . .

"In the higher forms of animals, and more especially in man, the animal life dominates over the organic life, which becomes its slave, and exhibits the remarkable phenomena of mechanical force, of geometrical instinct, of animal cunning, and, finally, in man himself produces intellectual work, rising to its highest form in the religious feeling that recognises its great Creator, and bows in humility before Him. It is a simple matter of fact and of everyday observation, that all these forms of animal work are the result of the reception and assimilation of a few cubic feet of oxygen, a few ounces of water, of starch, of fat, and of flesh." . , .

"The food consumed in twenty-four hours, including air and water, undergoes a series of changes of a chemical character before leaving the body, in the form of one or other of its excretions. Some of these changes develope force, and others expend force, but the algebraic sum of all the gains and losses of force represents the quantity available for work. This work must be expended as follows :—

1. The work of growth.
2. The work of maintaining heat.
3. Mechanical work.
4. Vital (intellectual) work." . , ,

"Let us take, as illustrations, the muscles and brain, regarded as the organs by means of which mechanical and intellectual work is done. These organs resemble the piston, beam, and fly-wheel of the steam-engine, and like them only transmit or store up the force communicated by the steam in one case, and by the products of the food conveyed by the blood in the other case."

Then follow nearly fifty pages of mathematical calculation on the several relations between the food taken, the air breathed, and the work done.

To my mind such calculations as these, when supposed to represent the sum of vital phenomena, are a delusion, and as great a delusion as that which misled the talented physicians of the last century. In proof of this the following observations are offered :—

It is required for the solution of a problem by figures,

1. That all the factors be included.
2. That all admit of being numbered, measured, or weighed.
3. And that this numbering, measuring, and weighing has been accurately done.

Now, not one of these indispensable conditions has been fulfilled by Prof. Haughton's calculations.

1. The data, elements, or factors, in living operations, are too numerous for all of them to be taken into account. Moreover, the one which is the most essential, namely the vital force or life, is wholly omitted.

2. This vital force refuses to be either counted, measured, or weighed.

3. And even the counting, measuring, and weighing of those elements upon which the calculations are actually made, are at the best only approximations, falling more or less short of accuracy.

All this is true of calculations based upon experiments made upon animals. In man another element presents itself, and one which exercises a mighty power over the body, and the action of its several organs. This is the MIND, in its double influence, by its intellectual and its moral faculties. Hear what King Harry said to Cardinal Wolsey:—

> "——— Read o'er this,
> And after, this ; and then to breakfast, *with*
> *What appetite you have.*"

It should be gratefully acknowledged that the information which is obtained by such pursuits as those of Prof. Haughton, when confined within their proper limits, are highly interesting, and sometimes of value. But they are worse than useless when they are ambitious of representing the circle of living phenomena.

Mathematical calculations may be applied to the action of muscles and bones where the elements are few, and the mechanical arrangements are obvious. When, therefore, Professor Haughton undertakes to prove the following propositions, he may be more safely listened to:—

"1. Each muscle is constructed in relation to its joint, in such a manner as to perform one kind of work only, and it performs that work to a maximum advantage.

"2. The number of muscles employed is determined by the number of distinct actions required from the limb.

"3. The shape and form of the bones employed are the necessary consequence of the shape and power of the muscles in action.

"4. The smallest muscle in the combination is as carefully adapted to its conditions of maximum work as the largest muscle."[1]

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[1] *British Medical Journal*, April 20, 1872, page 416.

These, no doubt, are propositions in mechanics, to which mathematical calculations may be applied. But when these muscles contract, and these bones are moved, a force comes into play, which sets all calculations at defiance. For it must be borne in mind that every movement is dependent upon, and is regulated by, the presence of *life*. This is a force which is absolutely unmeasurable by any methods we possess.

The "necessary consequence" which Prof. Haughton says follows from these propositions is—

"That a foreseeing mind planned the type of the limb and of its actions."

This remark brings to my recollection a charming Essay on *The Pleasures of Science*, written nearly fifty years ago, by Lord Brougham; in which he gives, as examples proving this "necessary consequence" (among many others which I have forgotten), the curve of the head of fishes, this being the solid of least resistance; and the hexagonal form of the cells of a bee-hive, and the roof and floor of the hive; these being formed upon the truest mathematical principles.

On other living processes, or vital work, such, for example, as respiration, all that can be truly said is, that during this process certain chemical changes take place, which it is in our power to examine qualitatively, and to some extent, quantitatively; and also certain mechanical actions are performed, which we can observe, but cannot measure their force. So, in the living process of digestion there are chemical changes, and there are mechanical actions; but neither respiration nor digestion can be defined as a chemical or as a mechanical operation.

Prof. Haughton goes on to apply the physical "theory to diseased conditions of the body." I must not follow him in his details. Difficulties and objections, like those we have considered in physiology, but in increased degrees, will be found; and the practical excesses which have resulted from the adoption of such views, show how mistaken and dangerous they are. The "furnishing of fuel in the form of wine and beef-tea" in fevers, to the extent to which it has been carried, may be mentioned as an example.

The application of similar calculations to therapeutics and the action of drugs, has not, so far as I am aware, been yet made in our time.

The mention of "fuel" makes it almost necessary that something should be said upon "innate" or "animal heat," as handled by Professor Haughton. This is the more readily done, because it offers another opportunity of opposing medical hypotheses, and of endeavouring to eradicate them from medical literature.

The subject is introduced thus :—

"Hippocrates was well aware of the connection between food and animal heat, although he erroneously regarded the animal heat as the innate property of the body that caused an appetite for food, instead of being itself produced by food ; if we transpose his cause and effect, *mutatis mutandis*, all his maxims as to animal heat are true. Thus he says—

"'Growing animals possess most innate heat, hence they require most food ; . . . . but the old have least heat, and therefore require the least fuel.' (Aph. I, 14.)

"The doctrine of 'innate' heat taught by Hippocrates and Galen, ruled in medicine for 1500 years after Galen's death, until it received its death-blow from the genius of Lavoisier, who demonstrated, in his celebrated memoir read before the French Academy of Sciences in 1783, that the source of animal heat is to be found in the combustion of the carbon of the body by the oxygen of the air received into the lungs by respiration."

Lavoisier's memoir was founded upon experiments with a guinea-pig; and the hypothesis put forth by him, in opposition to that of Hippocrates, now rules in medicine.

Let me first speak, and speak reverently, of the Father of Medicine.

The first section of his matchless book contains twenty-five Aphorisms. The majority of these are as true and as important now, as when they were written. They begin with that most suggestive and solemn one:—

Life is short, and the Art long; opportunity fleeting; experience deceitful; and judgment difficult. The physician must not only be prepared to do what is right himself, but also to make the patient, and attendants, and externals, co-operate."

Then follow excellent declarations of simple facts concerning diet, regimen, and the use of aperients. And it seems to me that the only blot in the first section of the Aphorisms of Hippocrates, is the introduction in three of them of hypotheses. Two of these refer to innate heat, the other to the concoction of humours.

The 13th is as follows:—

"Persons of advanced years endure a spare diet most easily; next adults; young persons not nearly so well; and especially infants, and of them such as are of a lively spirit."

Then follows the 14th, quoted by Prof. Haughton:—

"Growing persons have the most innate heat, they therefore require the most food, for otherwise their bodies are wasted. In old persons the heat is feeble, and therefore they require little fuel, as it were, to the flame, for it would be extinguished by much."

To have expressed this truth consistently with the tenor of the other Aphorisms, it should have been worded thus:—

"Growing persons require the most food. Old persons require less."

And I venture to think that the opposite hypothesis, founded upon Lavoisier's celebrated guinea-pig, and which forms the basis of Prof. Haughton's elaborate calculations, may be dispensed with in like manner, to the great advantage of practical medicine. It will receive its "death-blow," and be superseded by some others; indeed, it is already giving way to the "mode of motion" hypothesis; a notion, I presume to say, not one whit more worthy of adoption than any of its predecessors.

Let physicians learn and remember *facts*. They have not time to spend over the pros and cons of contending hypotheses. "Life is short, and the Art long."

Aristotle seems to have thought that the mind is composed of two parts; one by which we contemplate those things which cannot be otherwise than they are, and one by which we consider those things which can be otherwise than they are.[1] It is not necessary to cut the mind in two in this manner; nor is it necessary to seek a foundation for mathematics different from that of the other branches of natural knowledge. One, two, three, four, a point, a straight line, an angle, a circle, are as much objects of our senses as a tree or an animal. The only difference is in the simplicity of the elements of the former, and the number and complexity of those of the latter. This difference, however, is so great, that what is possible to us in the one case, is impossible in the other. The simple cases may be handled mathematically, the complex ones cannot be so handled.

It might have been expected that these considerations would have been sufficient to prevent any one from engaging in the hopeless undertaking of applying mathematical reasoning, or even mechanical principles, (except to the limited extent noticed), to such complicated problems as occur in physiology, pathology, and therapeutics. But nothing can restrain the ingenuity of men when they are pursuing an object by a false route.

6. *Drugs have been studied botanically.*

The Greeks marred their therapeutics by introducing the philosophy of their times into medicine, and this in two ways; first, the philosophies themselves being erroneous, their introduction into medicine was the introduction of errors; and secondly, the attempt to apply philosophical speculations to therapeutics was a misapplication even of any truth they might contain.

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[1] *Ethics*, Book VI.,—καὶ ὑποκεὶσθω δύο τὰ λόγον ἔχοντα, &c.

The early physicians were not content with this double damage. They invented medical philosophies themselves, such as those of the temperaments, and of the humours, and in this third way disfigured and depreciated their really useful medical knowledge.

But they had neither the chemistry nor the mechanics, nor the botany which we have, and therefore, happily for themselves, could not make a further misapplication of science by misapplying these branches of it to medicine. This was left to the moderns, and it has been thoroughly done by them.

We have seen to what extent by the chemists and by the mathematicians. The botanists have followed in train, though they have not been able to effect nearly so much mischief.

Scientific botany, like scientific chemistry, is indebted to physicians for its beginning. One of its earliest friends was Leonhart Fuchs, a physician of Tubingen, about three centuries ago. For a long time it was studied as a branch of natural history only; that is, its descriptions were confined to the outward forms of plants; now it embraces the internal structure of the organs, or constituent parts, which is called organography, and the functions of these organs, or their physiology. At first the description of plants was connected with their supposed medical virtues, but now, like chemistry, it is an independent science, and the chemist and the botanist are no longer physicians.

It is, however, one of the collateral sciences with which the physician ought to be acquainted. The knowledge it can impart adds very much to the interest of the study of the Materia Medica, and it is occasionally useful; but it cannot fulfil such promises as those made by Professor Lindley when he says:—

"This science it is which teaches the physician how to discover in every region the medicines that are best adapted for the maladies prevalent in it, and which, by furnishing him with a certain clue to the knowledge of the tribes in which particular properties are or are not to be found, renders him as much at ease, alone and seemingly without resources, in a land of unknown herbs, as if he were in the midst of a magazine of drugs in some civilised country."

We shall see that these flattering promises cannot be realised.

There are two ways in which they might be fulfilled: first, in the plants themselves there might be evidence or information from which the physician might learn the medicines best adapted for special maladies. Or, secondly, the classification or arrangement of plants in the various systems of botany might furnish this evidence.

Let us ask, then, is there anything in plants themselves which indicates their medicinal properties? Not in themselves. The most careful examination, whether of their form, appearance, colour, taste, or smell, or of the different parts of them, or of the climates or regions in which they grow, or of the seasons in which they bloom, only forces upon the mind the conclusion that the medical virtues of plants cannot, in this way, be learned at all.

No: but, says Professor Lindley, it is the *science* of botany which teaches the physician this knowledge. Let us look at the science.

The view must be a brief one, but it is hoped that it may be clear and correct. The representative men of the modern systems of botany are Cœsalpinus, Ray, Tournefort, Linnæus, the two Jussieus, De Candolle.

Andreas Cœsalpinus of Arezzo, about 1580, was the first who accomplished a scientific classification of plants. He was a *fructicist*. He says:—

"If we take the root, or stem, or leaves, or blossom, as our guide in classification, we shall separate plants obviously alike, and approximate those which have merely superficial resemblances."

His system, therefore, is founded upon the difference in the number or covering of the *seeds*. He has ten classes formed in this way:—

"Some have, under one flower, one seed, as *amygdala;* or one seed receptacle, as *rosa;* or two seeds, as *ferularia;* or two seed receptacles, as *nasturtium;* or three seeds, as the *tithymalum;* or three receptacles, as the *bulbaceæ;* or four seeds, as *marrubium;* or four receptacles, as *siler;* or more seeds, as *cicoraceæ;* or more receptacles, as *pinus*."

A strong testimony in favour of this arrangement is that it is consistent with natural orders, with many of which Cœsalpinus was acquainted.

John Ray, a century later—about 1680—the father of English scientific botany, based his system in part upon the *fruit*, and in part upon the *flower*. The vegetable kingdom being necessarily first divided into plants which have flowers and plants which have not flowers—*phanerogams* and *cryptogams*—the flowering plants are *simple* or *composite*. The simple flowers have the seeds *naked*, or in a *pericarp*. Those with naked seeds are arranged according to the number of the seeds. Of those which are surrounded by a pericarp, or fruit, some have the first large and soft, as apples; some have it small and juicy, as gooseberries. If this fruit is not juicy but *dry*, it is simple or multiple. The simple are the pea-tribe, *leguminosæ;* the multiple are arranged according to the differences in the flowers, *monopetalous*, &c.

The *composite* flowers are those which have many florets, in the same *calyx*. They are divided into those having complete florets, and those having only half florets.

This system was in use through the 18th century. Like its predecessor it had the advantage of embracing some natural families.

Joseph Pitton de Tournefort, of Paris, published his "Institutio rei Herbariæ" in 1700. He was a *corollist*. His system is based upon the different forms of the *corolla*. Thus not only departing from the seed altogether, but not even including the whole flower. Tournefort's first division is into herbs and trees; herbs are divided into seventeen classes, according to the presence or absence of the corolla, and its form, regular or irregular, single or numerous petals. His second division of trees is divided in the same manner into five classes.

Even this arrangement, feeble as it would seem to be, includes some natural families also, as the *labiats*, *cruciforms*, *umbellifers*, *legumens*, &c.

Karl Linné, one of Sweden's greatest ornaments, had become celebrated half a century later—about 1750. Linnæus chose also only *a part of the flower*, as the foundation of his system—not the corolla but the *stamens* and *pistils*, the former for the classes, the latter for the orders. He was a *stamenist*. In this manner he arranges the phanerogams or flowering plants in twenty-three classes, and the cryptogams, or flowerless plants in one class.

Linnæus thus returned to *numbers*, retracing steps in the path opened by Cæsalpinus, but quitted by Tournefort for one much less precise and fixed—that of *forms*. There was also in the system of Linnæus a tinge of physiology, which was a new feature. It grievously separates the members of some natural families.

This defect, by which plants manifestly closely related in nature were artificially detached from one another, became more and more felt, and in about another quarter of a century the two Jussieus, uncle and nephew, were able to gain attention to a method which is justly called the natural method.

It is not founded upon the consideration of a single organ, but the characters presented by every part of a plant concur in fixing its position in the scheme.

And, further, anatomy and physiology are introduced. There are fifteen classes, which include 164 natural orders. These are arranged in three divisions. *Acotyledons*, which correspond to the cryptogams, mushrooms, lichens, lycopods, &c., eleven orders;

monocotyledons, embracing thirty orders; and *dicotyledons* 123 orders. These three divisions are taken from the seed as germinating. Cœsalpinus took the seed as perfected; Jussieu takes it as beginning to grow. It has then either one lobe from which one little leaf springs—monocotyledons—or two lobes from which two little leaves spring—dicotyledons.

This natural method was a great improvement upon the artificial systems of Tournefort and Linnæus.

De Candolle—from 1824 to 1840—adopts the same method, but carries it further, availing himself of the discovery which in the meantime had been made by Des Fontaines of the distinct structure and growth of the *stem;* one portion of flowering plants increasing from *within*, the other from *without*, or on the external surface. De Candolle adopts this as the basis of his arrangement, and calls those growing from within *endogens*, and those growing from without *exogens*. The first correspond to Jussieu's *monocotyledons*, the second to the *dicotyledons*. The cryptogams or acotyledons are called *acrogens*.

This method is the one which prevails in our time. It is not founded, as the earlier systems were, upon external characters only, but very much upon the anatomy and physiology of plants. It is, so far, more likely to be permanent, but it is not without its difficulties, nor is it free from vagueness; for it brings many plants together which have no very obvious resemblances. This will be acknowledged to be no unimportant matter when it is remembered that the great object of science in classification is to bring together things which are alike, and to separate things which differ.

The latest improvement is that made by Professor Lindley, who has introduced into English botany the use of English names.

Of these six methods of classifying the vegetable kingdom the four first belong to natural history, the similars and dissimilars being exclusively external, They are asked to tell us anything they know about medical virtues. They answer plainly, "it is not in us!"

The two remaining methods advance into the interior of plants, and examine the structure and the functions of each part. This is a great increase of knowledge. Let us ask them the same question; what can you tell us of medical virtues? They reply as distinctly as the former, "it is not in us!"

How is it, then, that many medical writers, Pereira among them, have adopted a botanical arrangement of the *Materia Medica?* thus apparently confirming the opinion of Professor Lindley that botany "teaches the physician how to discover medicines," and implying that the "natural orders" of plants contain some rule as to their medical virtues.

The examples of any rule of this kind are, at least, equally matched by the exceptions, both in number and importance; hence the rule is useless, and falls to pieces. Plants gathered together as they are at present, in natural orders, differ both as regards food and medicine, some in the same order being nutritious, and others poisonous—as carrots and hemlock—and among those which are poisonous, and therefore medicinal, there are very great differences of drug-action.

And as regards the example of Pereira, he acknowledges that he has adopted this method in despair; "on account of the great difficulties attending any other method, especially that founded on the physiological effects of medicines"—the only true method.

There are two ways of looking at this question. Either to suppose that the botanical arrangements yet made are not perfect, or the best that can be made; and that some botanist, perhaps yet unborn, may make an arrangement of plants which will put those which are nutritious and those which are poisonous in more consistent groups; or to believe that the arrangements of the physician have nothing to do with those of the botanist. This latter view seems to me to be the true one.

It would be obviously unreasonable to ask a botanist to arrange his plants according to their action, nutritive or poisonous, upon animals which it does not come within his province to observe. To me it appears equally unreasonable for the physician to adopt the method of the botanist, and arrange his drugs according to those characters only which are open to the botanist to observe.

It may be safely concluded that there is no observed connection between either the external form of plants or the internal structure of the organs or their functions, and their action as drugs. Neither the outward appearance, nor the structure of any part, nor its function, nor the mechanical power, nor the chemical composition of vegetables, throws any light upon their therapeutic action.

I shall be charged with being an enemy to science. I contend that whosoever points out the true limits of its several branches is one of its best friends. What, then, are the uses of botany to the medical man? Several; at present I will mention only one. That the English practitioner may be taught how he may substitute English species of medicinal plants for foreign ones. For instance:—

There are three principal species of *daphne.* The *D. gnidium* (flax-leaved daphne) of Hippocrates; the *D. mezerium* (spurge olive) of Dioscorides; and the *D. laureola* (spurge laurel) of Gerard and Parkinson. The first and second are natives of Greece, and, I believe, are still to be found in the Greek Pharmacopœia. The second is indigenous in Germany, and was proved by Hahnemann; and it was probably brought into this country, along with other medical plants, by the Romans. The third is indigenous in England. This last I have used instead of the mezerion, with good success, especially in some skin diseases. In the same manner the *bryonia* of England is the *B. dioica,* that of Germany is the *B. alba,* the latter being the species proved by Hahnemann. For many years I have used the English species instead of the German, and with great satisfaction. The same result may, perhaps, be expected if the *actæa spicata* (herb Christopher), an English species, be substituted for the *actæa racemosa* (or *Cimicifuga racemosa*, black cohosh) of America. It grows on high chalky ground in Yorkshire, and it deserves to be carefully proved. The same remarks will apply to many other foreign plants with equal force, and the attention of the younger members of the profession is earnestly invited to the investigation.

Before quitting the subject of botany let me ask leave to point out a comparison which may be made between the progress of the classification of plants and the progress of homœopathy.

Hahnemann's homœopathy is very exactly comparable with Tournefort's botany. The system of Tournefort, as we have seen, was founded upon the similar and the dissimilar in the form of the *corolla*. It put together the similar forms and separated the dissimilar. Hahnemann did the same with the symptoms of diseases and the symptoms of drugs; similarity put them together, dissimilarity separated them.

Linnæus added some physiology to this external system of botany, but it still remained in his hands what it had been in Tournefort's hands, a comparison of similars.

So modern homœopathists, feeling with Dr. Black how bare and unsatisfactory a medical system is without pathology, have tinged Hahnemann's external homœopathy with pathology, by adding the internal condition as so many additional symptoms to the external ones. They then carry out as before the doctrine of similars, and "still hold to the old empirical formula of Hahnemann drawn from the totality of the symptoms."[1]

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[1] Dr. Black, *Monthly Homœopathic Review*, Oct. 1868, and my Reply, Nov. 1868. Dr. Black endeavours to take advantage of the expression "tubercular cachexia." This expression, like many similar ones, serves only to hide our ignorance from

Jussieu and De Candolle took a great step in advance when they made *anatomy* the basis of their method. It was nothing less than the substitution of a natural for an artificial system.

Though not suggested by this progress in botanical science, the thought I have breathed resembles that of Jussieu's. Make *anatomy* the basis of therapeutics; endeavour to discover the organs which are the seat of disease, and the organs which are acted on by drugs, and prescribe a drug which acts upon the organ where the disease is seated.[1] In this manner similarity is exchanged for identity. The difference between the two methods is the difference which exists between *similis* and *idem*—between similar symptoms and the same organ.

The next step—the *kind* of action and the connection between the kind of action of disease and of drug—shall receive all the attention it claims in a future Essay.

Linnæus, by the tinge of physiology in his system, added a charm, but gave no real help; so the pathology of Dr. Black is comforting to the educated medical mind. But so long as its conditions are viewed as so many symptoms to be added to the outer ones, and similarity is to be aimed at in the selection of the remedy, the benefit is more imaginary than real. On the method proposed it is substantial and fundamental. Similarity of symptoms exhibits some mysterious relationship between disease and its remedies; but an anatomical connection brings them into actual contact. It is the substitution of a natural for an artificial system.

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ourselves. It may be used, for brevity's sake, as summing up the local diseases and the symptoms of such cases; but if any one thinks that it contains knowledge beyond this, he deceives himself.

[1] When there are several acting on the same organ, the *kind* of action will decide which. The kind of action of drugs will take its turn for consideration in a future Essay.

7. *Drugs have been studied pathologically.*

Drugs studied pathologically means that they have been prescribed in accordance with some pathological doctrine.

The methods pursued for the discovery of the action of drugs which we have hitherto noticed have been either entirely mistaken and vain, as the three first, or have rendered very partial service, as the three last.

We now come to a method which ought to have proved a good one; and, in proportion as a true pathology is established, it may become a good one. So far it has been a mistaken one, and, as carried into practice, has done more harm than good; because the pathological doctrines successively in vogue, and especially those among the ancients, have been erroneous.

There is one grand therapeutic axiom which has ruled in medicine for thousands of years, and has been supported by a succession of pathological doctrines, which claims to be considered in every medical investigation. This is the treatment of diseases by their contraries—*contraria contrariis curantur.* It will repay the trouble if we look, for a short time, at these successive doctrines.

The first was old in the days of Hippocrates, and notwithstanding that it was vigorously opposed in one of the Hippocratic writings, continued to hold its supreme authority till two centuries ago, and this mainly because it was founded upon, and was supported by, the prevailing philosophy of the times.

The doctrine of the ancient philosophers, which prevailed amid many conflicts, was substantially this:—There is a primary matter which has neither form nor quality. This first becomes apparent to us by being made to assume in the hands of the Great Creator the form and qualities of *four elements*—fire, air, earth, and water. From these all other forms and qualities are elaborated.

To suit this doctrine of the philosophers the medical doctrine was invented of *four temperaments*—hot, cold, dry, and moist—health being a combination in due proportion of these, and sickness being a preponderance of one or more of them, and so constituting an *intemperament.*

Hence followed the therapeutic doctrine that drugs are possessed of similar qualities; and the arrangement of the Materia Medica in eight divisions—hot, cold, dry, and moist; and their combinations hot and dry, hot and moist, cold and dry, and cold and moist.

All the details of diseases and of remedies being thus arranged to the entire satisfaction of every one, it is easy to see how charming the treatment by contraries must be. As a matter of course a hot intemperament must be treated by a cold remedy, and a cold intemperament by a hot one.

I have remarked that this doctrine was ancient in the time of Hippocrates, that is, four centuries before Christ; it was brought to perfection, and established upon the ruins of every other medical doctrine, by Galen, in the second century after Christ; and it reigned without a rival for fifteen centuries more. It would be disrespectful, therefore, to the men of so many generations did we not acquaint ourselves to some extent with this wonderful hypothesis—wonderful indeed it must have been to bind down the medical profession as one man, to receive it without question as the only orthodox method, for so long a time.

In addition to what has been already said of the four elements, a few details relative to the four temperaments, the intemperaments, and the classification of drugs, will give us an intelligent understanding of this mighty system of medicine.

The temperaments are four simple and four compound ones, as already enumerated.

These temperaments are either of the whole body, or of some part of it, *e.g.* the brain, the heart, the liver, &c.

A bone is the most dry and cold.

A cartilage less so.

A ligament less than a cartilage.

The heart is most hot.

The liver next to the heart.

Muscles are moist, and hot.

The skin is less so.

The spinal marrow is colder and moister than the skin.

The brain exceeds this in moisture.

There are, in the same manner, eight kinds of intemperaments. When it is said a man has a hot liver, it is meant that his liver is hotter than a justly tempered one should be.

Then there are four humours — the blood, the phlegm, the yellow bile, and the black bile. And from these, according to the predominance of any one of them, we have a sanguine person, a phlegmatic person, a choleric person, or a melancholic person.

A disease is defined to be an affection against nature, by itself hurting and depraving *the action of the part in which it resides.* It is sometimes called a distemper.

By symptoms are meant that change which the disease brings, and which follows a disease *as a shadow follows the body.*

A medicine is defined to be that which has power to change the body according to one or more qualities, but which cannot be changed into our nature—*cannot nourish.*

They are possessed of the four simple qualities—heat, cold, &c., and the four compound ones — heat and moisture, &c.

Medicines are hot, cold, &c., in four degrees, *e.g.* warm water is temperate; that which is a little hotter is the first degree of heat; if manifestly hot, it is the second degree; if it heat more vehemently it has come to the third; if it scald, it has arrived at the fourth degree of heat. The following are a few examples :—

Simple Medicines hot in the

First degree—Absinthium. Althæa. Amygdala dulc. Beta.

Second degree—Ammoniacum. Artemisia. Anethum. Salvia.

Third degree—Abrotanum. Agnus castus. Anisum. Sabina.

Fourth degree—Allium cepa. Euphorbium. Sinapis. Ruta.

Simples cold in the

First degree—Atriplex. Hordeum. Malva. Pyra. Pruna. Rosa.

Second degree—Acacia. Cucumis. Plantago. Solanum hortense.

Third degree—Hyoscyamus. Solanum somniferum. Mandragora.

Fourth degree—Cicuta. Papaver. Opium.

Simples moist in the

First degree—Buglossum. Viola. Rapum. Spinacia.

Second degree Lactuca. Cucurbita. Melones. Portulacca.

Simples dry in the

First degree—Thus. Chamæmelon. Brassica. Crocus. Faba.

Second degree—Pix arida. Nux moschata. Mastiche. Myrrha.

Third degree—Abrotanum ustum. Myrtus. Galla. Sabina.

Fourth degree—Piper. Allium. Nasturtium. Euphorbium.

This arrangement of the qualities, Galen says, is in order to proportion them to diseases. For example: To a disease hot in the second degree no other medicine must be used than that which is cold in the like degree.

So much for the first qualities or faculties of medicines; now for the second. Those are termed second faculties which are dependent upon the first. It is the part of heat to rarify, attract, open. Of cold to condense, repercuss, shut up. Of moisture to soften, relax. Of dryness, to harden, stiffen.

Hence, that is termed an attractive medicine which has an attractive faculty; as, on the contrary, that a repercussive which repels. So of emollients, relaxers, &c.

The third faculty of medicines depends upon the first and second, sometimes conjoined, at other times separate. Its operations are to agglutinate; to fill with flesh; to cicatrize; to assuage pain; to promote or diminish the secretions of the kidneys, skin, uterus, &c. Thus the generation of flesh is produced by the concourse of dryness and cleansing. Coldness joined with some moisture procures rest; this is the sleepy faculty of opium.

But the fourth faculty of medicines does not depend upon any of the foregoing qualities, or upon any other manifest quality. This depends upon *an occult property* of the whole substance, by means of which it works rather upon this than that part; upon this rather than that humor. Wherefore physicians *cannot find out this faculty by reason, but only by experience.* Hence it is that names have been given to medicines from those parts which they chiefly respect. For they are termed *cephalics* which respect the head, as betony, marjoram, sage, rosemary; *pneumonics* which respect the lungs, as liquorice, sweet almonds, elecampane; *cordials* that strengthen the heart, as saffron, cinnamon, citrons (chiefly the rinds), bugloss, coral, ivory; *stomachics,* which respect the stomach, as nutmegs, mint, anise, mastic, pepper, ginger; *hepatics,* which respect the liver, as wormwood, agrimony, succory, sanders; *splenetics,* which have relation to the spleen, as thyme, broom flowers, capers (the bark of their roots), the bark of tamarisk; *diuretics*, such as respect the kidneys and urinary passages, as the roots of smallage, asparagus, fennel, butcher's broom, turpentine, plantain, saxifrage; *arthritics*, such as strengthen the joints, as cowslips, elecampane, calamint, hermodactils, &c. And to this rank is referred purging medicines, which, furnished with a "*specific property*," show their efficacy on one humor more than on another, and that impact more in one part than in another. For thus *agaric* draws phlegm from the head and joints; *rhubarb* draws choler from the liver, and hurts the kidneys.

Such is a sketch of the most famous of all medical systems. It has often been remarked that no hypothesis becomes popular unless it has some truth mixed up with its fancies; and it is not difficult to see that this system, though it begins very high up in the clouds of imagination, descends at length to very practical matters of common observation. That, in fact, it is constrained to acknowledge itself compelled to abandon its boasted reasonings, and to take up with the previously despised testimony of experience derived from the observation of the senses.

It is a melancholy fact that even Hippocrates himself could not prevail to put away the vain fancies of this system, and persuade men to be content with the truth of facts. The treatise "On Ancient Medicine," which is acknowledged by competent judges to be a genuine work of Hippocrates, commences thus:—

"Whoever having undertaken to speak or write on medicine, have first laid down for themselves some hypothesis to their argument, such as hot, or cold, or moist, or dry, or whatever else they choose, are all clearly mistaken in much that they say; and this is the more reprehensible as relating to an art which all men avail themselves of on the most important occasions, and the good operators and practitioners in which they hold in especial honour." He goes on to refute these speculations, and remarks with wonderful sense and precision, "*I have not thought that medicine stands in need of an empty hypothesis.*"[1]

This is the system of treatment by contraries of the *dogmatists*, ancient and modern. Another system having the same maxim, "*contraria contrariis curantur*," was maintained with much talent among the ancients under the title of *methodism*. This system, after a vigorous struggle, was overpowered by dogmatism, and in consequence its books are nearly all lost.

Asclepiades of Bythinia, a disciple of Epicurus, gave to the elements the name of atoms, and taught that the human body is formed of tissues every way permeable, or pierced with invisible holes which he named pores, through which atoms continually pass and repass. Health depends upon the symmetry of the pores and the atoms. Disease on their disproportion. The aim of medicine is to enlarge the pores when they are too contracted, and to close them when they are too open —"*contraria contrariis curantur*." His remedies made him a popular practitioner; they were chiefly physical exercise, such as walking, riding on horseback or in a carriage, and boat rowing; frictions; and wine.

Themison of Laodicea, a disciple of Asclepiades, but not quite so visionary, separated diseases into three orders, the constrictive or contracted; the flexionary or relaxed; and the mixed.

It follows from this division of diseases that with the methodists there were only two kinds of therapeutic indications to fulfil, viz. to relax when there was constriction, and to constrict when there was a flux or relaxation. All remedies therefore are either astringents or relaxants. Among the former are darkness, fresh air, cold or acid drinks, decoction of quince, red-wine vinegar, and solution of alum. Among the relaxants are bleeding, emollient poultices, warm and laxative drinks, sudorifics, warm air, sleep, and exercise carried to fatigue.

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[1] 'The Genuine Works of Hippocrates,' by F. Adams, LL.D. Sydenham Society's Edition, Vol. I., p. 161.

The works of Cœlius Aurelianus are the only writings which have not been lost, of the physicians belonging to this school. But many extracts have been preserved by other authors.[1]

A modern edition of methodism was made popular for a time by Dr. John Brown, a pupil of Cullen's. "Life," he said, "is only sustained by incitation. It is only the result of the action of incitants on the incitability of organs." Consequently *sthenia* and *asthenia* were the only divisions necessary; "*contraria contrariis curantur*" being the rule of treatment, and nearly all diseases being *asthenic*, wine became with Brown almost the only remedy. As a serious commentary on this method of treatment, I cannot avoid quoting the following passage from the French *History of Medicine* of Renouard:—

"This doctrine, so seductive in its exposition, so easy in its application, is one of the most disastrous that man has been able to imagine, for it tends to propagate the abuse of diffusible stimulants, of which spirituous liquors make a part, an abuse excessively injurious to health in general, and the intellectual faculties in particular—an abuse to which man is too much inclined naturally, and which the sophisms of Brown may have contributed to spread in all classes of English society."

There is yet another form of the doctrine of contraries. This was held partially by Hippocrates himself, and it is very prevalent among modern physicians. It is a comparatively limited and feeble doctrine, but, so far as it goes, it is very firmly maintained. Its principal expression is in giving purgatives in constipation, astringents in diarrhœa, refrigerants in fever, and stimulants in debility.

The more ancient and prevalent doctrine was perfect; all diseases were hot, cold, dry or moist, or a combination of these; all remedies were possessed of exactly similar qualities; so that it was always possible, by the hypothesis to prescribe a contrary. The defect of the doctrine was that it was imaginary—the whole story was a fiction. But a fiction of such beauty and attractiveness, that mankind were fascinated by it for thousands of years.

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[1] See the 'History of Medicine,' by Dr. Renouard.

The Hippocratic and modern doctrine is lame in comparison. Many diseases, as viewed at present, have no contrary condition, by inducing which, they can be opposed. Many drugs have no recognised condition at all according to which they can have contrary actions.[1] It is a fragmentary doctrine, embracing only a small number of particulars. No doubt, there is some truth and reason in it, but it has been carried out to an extent which has buried this truth under mountains of error.

Hahnemann's doctrine of "*similia similibus curantur*" is opposed to this modern doctrine of contraries, and not to that of Galen.

There is yet another pathological and therapeutical doctrine of contraries, of great importance and of widespread influence in the practice of physic, which claims to be noticed as one of the methods by which the action of drugs has been studied. It is the doctrine of derivation, revulsion, or counter-irritation. Its contrariety to the disease lies in the action being produced in a healthy part. This has been brought before us on former occasions, and it is not necessary to go into its details now. It may be remarked, however, that its greatest justification, as it appears to me, is contained in one of the Aphorisms of Hippocrates, which says:—

"Of two pains occurring together, not in the same part of the body, the stronger weakens the other." (Section II. 46.)

The arguments against it are, that it makes two sores instead of one, and that it is practically possible to cure by acting upon the diseased parts, and leaving the healthy parts to remain healthy.

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[1] This subject is further investigated in the Essays on 'Antipraxy' and 'Antipathy.'

The method which is opposed to it has been called *organopathy*, and is that which is advocated in these Essays.

8. *Drugs have been studied empirically.*

And what is *empiricism?* It is a word now so commonly used in an unfavorable sense, as synonymous with quackery, that an explanation is necessary. It was not always so used, nor is it so on the present occasion.

God has endowed us with reason, and has given us five bodily senses. With the former we can study the operations of mind; with the latter we can observe the phenomena of the universe, and upon these observations of our senses we can again exercise our reason.

Reason and sense (or the senses) are not always employed together. Sometimes men speculate upon the outer world mentally, without the foundation of observation—this is reason without sense—*idealism.* Plato is commonly considered the leader of this school.

Sometimes observation is not ignored, but it is kept in subjection to the mind—this is reason controlling sense. Aristotle has the reputation of being the father of this method. It teaches us to descend from general principles, thought out by the mind, to particulars observed by the senses; which is a *deduction* of a false kind.

A third method is that of subjecting mental work to observation—which is reason guided by sense. Lord Bacon has the honour of advocating this method. It teaches *induction* of generals, to be arrived at, not suddenly, but step by step from particulars.

Lastly, there is the method of observation alone—sense without reason—this is *empiricism.*

It may be added that in all these methods there is implied belief. When this is wanting, and there is doubt only, without belief, it is *scepticism.*

Empiricism in medicine has three aspects, one towards doctors, another towards diseases, and another towards drugs.

Empiricism looks at doctors with two expressions: one gracious, and recognising their position, the other scornful, and treating them with contempt. As already remarked, the word is used in this Essay with reference to medical men in its favorable sense. In this sense, to distinguish it from quackery, it has been called methodical empiricism. This is empiricism with a rule or method which implies knowledge; quackery is without rule and without knowledge.

The aspect of empiricism towards diseases is distinguished by the absence of all speculations as to their essence or internal nature. It rejects equally the humoralism of the dogmatists; the pores and fibres of the ancient methodists, and the modern Brunonians; the the spasms of Cullen; and the phlegmasies of Broussais; and contents itself with a simple but careful observation of the symptoms, their progress, and their apparent connection with the internal organs of the body.

Empiricism looks at drugs, and stores up the knowledge of them which has been acquired by what is called accident or chance, or by whatever other means. This empirical knowledge of drugs consists of a very large amount of useful facts, but which are not connected together by any chain of reasoning.

The story of the discovery of the medical virtues of Peruvian bark, whether true or imaginary, illustrates what is meant by the accidental or chance discovery of medicines. The story of the introduction of antimony as a medicine, in the *Currus Triumphalis* of Basil Valentine, is one instance of many for which medical men are indebted to persons outside the profession. For the introduction of iodine, and some others, we are indebted to the direct experiments of physicians.

At different periods of time, a large part of the medical profession has discarded the prevailing hypotheses of the age, and has used nearly all medicines empirically. This is especially the case at the present time.

The student of medical history may well be driven to despair. It is not surprising, though it is very melancholy, to see the greatest historian of medicine of modern times, Kurt Sprengel, end his laborious investigations by becoming a sceptic. Hear his final convictions :—

"The history of medicine shows us that a blind confidence in our opinions is almost always a proof of their falsehood, or of the weakness of the foundation upon which they rest. In studying this history one is persuaded with Pyrrho, that the way to fathom it is to suspend one's judgment, and that the wisest part is to look upon all opinions with indifference, without adopting any."[1]

The historian who stands next to Sprengel is the French physician Renouard. His researches have not led him into scepticism but into empiricism. After advocating it with much earnestness at the close of his history, he concludes with these words :—

"This system, it is true, takes from the mind many illusions which flatter our vanity, but which are obstacles to progress. Although the world grows older, man remains a child whom fictions amuse. But in a science like medicine fictions are never innocent; they have always caused much evil, and have retarded the progress of light much more than doubt and ignorance."[2]

I have said that empiricism is sense without reason. This is true in one respect but not in another. It is true with reference to what had been said just before of the dogmatism and methodism of the ancients; and it is also true with reference to the moderns who base their systems of medicine upon the laws of physiology. Such physicians, whether ancient or modern, think they ought to know the nature of diseases, the physiological disturbance, and to reason out upon this knowledge a method of treatment. The empiric argues that this is a great mistake. "All such reasoning, though it appears just and natural, is only a subtle sophism, which clinical experience contradicts at every step. There is a crowd of diseases whose nature escapes our researches, yet which we know how to cure; and there are others whose mode of formation is better known to us, whose treatment is, nevertheless, little improved by that knowledge."[1]

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[1] Kurt Sprengel. Introduction. [2] Renouard. Conclusion.

Empiricism, then, rests upon the observation of the senses, and rejects all elaborate reasonings upon the nature of diseases and the action of remedies. In this respect empiricism is sense without reason.

In another respect, however, it is not without reason; for it has framed for itself, from the observation of the senses, an axiom or rule by which it is guided. And the rule is this:—

"Those remedies which have cured one case of disease will cure all cases analogous to it." Or,

"Diseases must be treated by remedies which have been experimentally recognised as the most efficacious."[1]

Empiricism was first raised to a high position in the school of Alexandria, and it retained an honourable distinction till the time of Galen. But its fall was complete then, and its name became an epithet of reproach for fifteen hundred years. It was the produce of rare intelligence and great labour, but it had two fatal defects: one, the want of a chain to connect its numerous but isolated facts; the other, the absence of an element of progress; for it possessed no means whereby new remedies could be discovered, and the treatment of disease be made more successful. In this way its ruin became inevitable.

Modern empiricism must share the same fate. Its many facts are like a handful of separate grains which the first shake will scatter to the winds. They are unstrung beads which are easily lost; and there are no effectual means either of gathering them up or of adding to their number.

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[1] Renouard.

This latter defect, the want of some means of discovering new remedies, is honestly confessed by the most strenuous advocates of empiricism. Renouard, after having demolished all other systems, and deliberately taken refuge in empiricism, has this remarkable passage :—

"It must be avowed that the fundamental axiom of empiricism does not furnish any light to direct us in such researches; *it does not at all indicate the route to follow for the discovery of curative means.*"

This surely is to pronounce its condemnation. A system which must for ever stand still, and that in the face of manifest and daily failures, without adequate means of improvement, cannot be accepted as the final system of medicine.

We have now seen that the grand medical systems of the ancients, the Dogmatism of Galen, the Methodism of Themison, and the Empiricism of Serapio, were either mischievously erroneous or fatally defective. Modern systems, which are, for the most part, physiological doctrines, do not offer much truer satisfaction, or much greater success. So that Empiricism is again prevalent, notwithstanding its acknowledged deficiencies.

Empiricism collects the assemblage or totality of symptoms, prescribes some remedy already known, and falls to pieces from vagueness; from the too great multiplication of details; from the want of a cement to bind the details together and to make them manageable; and from the absence of any definite means of improvement, or of making the addition of new remedies.

The general conclusion from this rapid sketch of medical history, and the lesson to be learned from it, seems to be this: that reason and the senses are twin handmaids, whose office it is to guide man into the knowledge of natural truth; and that they must be allowed the privileges claimed by each. If a partiality be shown to either, the consequences are ruinous: if to reason, by being led into error; if to the senses, by the arrest of progress.

Let us now for a moment, before passing on to the next part of the subject, look at Hahnemann's Homœopathy in the light which we have derived from medical history.

It is evident that Hahnemann's system is another form of empiricism; inasmuch as he limits himself to collecting the totality of the symptoms, both of diseases and of drugs.

Instead of the rule of past experience, he adopts that of resemblances—similar symptoms of drug and disease.

It has one great advantage over all other forms of empiricism: it possesses the means of adding new remedies, by the proving of drugs in health. This is a glorious gain.

But it is not freed from the other great defect of empiricism; for the system is made to rest upon the observation of symptoms only. Unless some chain of reasoning can be found, by which the details, as so many separate links, can be united together, it must expect the fate of other forms of empiricism, and fall to pieces from its very progress; that is, from the accumulation of an unmanageable amount of detached facts.

Homœopathy, indeed, is already becoming cumbrous and vague in this manner. The numbers of cases and of provings are now so vast that, like a hand too full of beads, they must be scattered and lost for want of a binding string.

But if, by some successful effort of reason, a thread can be discovered, by which these beads can be strung together, permanency may be safely predicted for it.

Physiology and pathology have been pressed into this service, but without success. The thread I have proposed is not a physiological, nor a pathological, but an *anatomical* one. The *seat* of the symptoms generally admits of being observed almost as clearly as the symptoms themselves; and what reason has to do is to connect the two observations together. This union becomes the thread which will preserve the symptoms, like so many single beads, from dispersion and oblivion.

It will sometimes be found that the same symptom belongs, in different cases, to different organs; and the precision and success of treatment will depend upon the organ which is its true seat in each case being carefully ascertained.

For example, palpitation, besides belonging to the heart, as it may do in the majority of cases, in others may have its origin in the brain, in the stomach, in the uterus, or in the muscles. Cough may have its cause in the stomach, or in the uterus, as well as in the various parts of the respiratory organs. It is well known that pain in the right shoulder-blade sometimes belongs to the liver; and that pain in the knee is sometimes caused by disease in the hip-joint.

But if we take anatomy for a basis, instead of physiology or pathology; if we study the organs of the body, and attach to each organ the symptoms of diseases and also the symptoms of drugs which belong to it; we shall unite diseases and their remedies together, as so many links, in a golden chain; and this system of medicine will remain, and be permanently useful.

9. *Drugs have been studied mainly for their indirect action.*

The indirect method of treatment has been a prevailing error from the earliest times that reasoning has been applied to medicine. It embraces a large part of the practice of physic of the present day.

This subject was discussed in a previous Essay, the title of which is *The Single Medicine*,[1] and which was first published in 1854. In the year 1857 the late Sir

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[1] Essay VIII.

John Forbes published his interesting, but to his own school, most discouraging book, *Of Nature and Art in the Cure of Disease*, which he calls "the legacy left by him to his younger brethren after fifty years of practice."

Probably many of my readers are familiar with the book; if not, it may be respectfully suggested that the three concluding chapters (x., xi., and xii.) well deserve a careful study. I dare not occupy much time in giving extracts from them, but must beg leave to produce one or two. In the opening of the tenth chapter we read thus:—

"They [medicines] would seem all capable of being arranged in two main classes, according to the more or less direct way in which they influence the morbid state.

"In the first class we would comprehend all those means which, in producing their effects, act or are supposed to act directly on the disease itself, or on the disordered parts and functions constituting it, or on its immediate and still persistent cause, and which may therefore be called *Direct means.*

"In the second class we place all the remaining means, those, namely, which, possessing no special relation with the morbid state itself, act on it merely in an indirect or vicarious manner, by modifying some other organs or functions or the system generally, and so influencing the disease. These may therefore be named *Indirect means.*"

After a careful examination of these two classes of means, the conclusion is thus expressed:—

"In only a very minute proportion of the numerous diseases presented to us in practice—and these few, for the most part, of slight importance—are we able to act positively or certainly, that is directly or specifically, on the diseased part, or on its morbid condition; while the whole huge remainder of diseases can, as we have seen, be only indirectly, and distantly, and slightly touched by our agents in any case,—and in a large proportion of cases, cannot [illegible] ched at all. . . ."

"From the survey in the last chapter, it appears that, with the exception of a very few, and those comparatively insignificant diseases, the Medical Art does not possess the power of curing diseases in a direct and positive manner. In the few diseases in which it may be said to do so speaking generally, it not seldom fails to do so in individual instances.

"In all other cases—that is, in the vast majority of diseases—the Medical Art, even when exerting its powers most successfully, can, in strict language, hardly be said to *cure* diseases at all. All that it professes to do, and all that it does, is to influence diseases in an indirect and partial or imperfect manner, by modifying, to a greater or less extent, the functions of certain organs, with the view and in the hope of thus modifying the processes in which the malady consists."

"The degree to which the Medical Art can fulfil even this humble office, we have seen to be infinitely less, generally speaking, than the public and even than the members of the medical profession have always believed, and still believe."

It was necessary and fair, after this overwhelming condemnation, to insert a saving clause, and it is added in these words:—

"The Medical Art, when it condescends to leave its imaginary heights of power, and take up its true position as a helper in man's infirmities, proves itself to be not simply useful, but most valuable in almost every case of disease, slight or severe, curable or incurable. . . . . Nature can almost always be helped, in some slight degree at least, either negatively or positively, if not in both ways, by those who possess the necessary knowledge and skill."

In this farewell testimony of Sir John Forbes, as the final result of a very long practice, in which great abilities, industry, and opportunities were united, we have his frank confession of the general prevalence of the indirect method of treating diseases, and of its painful inefficacy.

When a patient has been examined by a physician, and the symptoms have been observed and noted, they are viewed in three aspects. One is for the purpose of forming an opinion of the seat and nature of the disease—for diagnosis. Another is to judge of its probable progress and termination—for prognosis. The last is for treatment. All the symptoms are not of equal value in each of these points of view; some tell the seat and nature of the disease better than others; some guide the prognostications; and some give what are called the indications of treatment. It is with the indications of treatment that we have now to do. These indications, according to long prevailing notions, are many and diverse. They are nearly all embraced by two thoughts—elimination and counter-irritation.

As regards the first—elimination,—turning the complaint out of doors—the indications supposed to be supplied by the symptoms are many; for example, the practitioner sees in the case before him what suggests to him reasons for bleeding; or for purging; or for emetics; or for diaphoretics, to produce perspiration; or for diuretics, to act on the kidneys; or for anodynes or soporifics, drugs possessing the sleepy property, the fashionable one just now being *chloral hydrate.*

It will be noticed that none of these indications suggest a *direct* cure of the malady, but the production of some effect, commonly a discharge or increase of some secretion, which it is presumed will *indirectly* mitigate the force of the disease.

The other thought is revulsion or counter-irritation. This contemplates acting on healthy parts with the intention of relieving, in this *indirect* way, the diseased parts. For example, a congestion of the brain immediately suggests to the physician that the healthy bowels must be irritated with purgatives such as colocynth or gamboge (see these drugs in Pereira's *Materia Medica*); the healthy skin must be inflamed by a blister; the healthy kidneys must be set to do increased work; and so on. An artificial disease being thus necessarily added to the natural one.

The medical profession since the times of Hippocrates has been so indoctrinated with these notions of eliminating the essence of the disease by driving it out in some discharge, or of frightening it away by the perturbative practice of counter-irritation, that it has always been with extreme difficulty that any remedy could be introduced which offered to cure a patient in a less offensive manner.

Renouard, when describing the introduction of cinchona, tartar-emetic (at one time proscribed by a decree of the Parliament of Paris), ipecacuanha, belladonna, digitalis, vaccination, &c., has a very vigorous passage on this point. He says :—

"An important remark on the subject of all these beautiful improvements remains still to be made, which is, that they were all accomplished, not in virtue of prevailing theories, but in spite of them; and the greatest obstacles they had to surmount to become established, came from these very theories. What was the reproach that the adversaries of cinchona brought against that medicine? It was this, that it produced no sensible evacuation. In their opinion, founded on the authority of Galen and others, the proximate cause of intermittent fevers could be nothing else than vitiated bile or phlegm; so that a medicine which expelled neither the bile nor the phlegm, could not, according to their doctrine, cure an attack of ague."[1]

Many excellent remedies, which exert no power but the power of healing, have passed, mainly through the hands of homœopathists, into general use. And yet, so inveterate is the habit of inventing hypothetical explanations, that medical men will not acknowledge this power of healing simply as a fact. They will use terms which imply an explanation of the manner in which this power is exerted. Indeed, hypotheses and their invention are nothing less than a medical mania.

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[1] Renouard's 'History,' Reform Period, Ch. V.

Take, as an example, the following paragraph about copper, from Pereira :—

"If the cupreous preparations be used in *very small doses*, they sometimes give relief in certain diseases, without obviously disordering the functions; in other words, in these instances the only apparent effect is the modification observed in the morbid condition. These are the cases in which these preparations have been termed *tonic*, *antispasmodic*, or *alterative*, according *to the nature of the disease;* thus, in ague they have been termed tonic, in epilepsy antispasmodic, in dropsy, alterative."[1]

And so the tonic property, the antispasmodic property, the alterative property — and why not all other properties ?—reside, not in the drugs, but in the diseases! Such reasoning as this ought to require no refutation.

The conclusion seems to be irresistible that this indirect method of using drugs as remedies must be abandoned, and a better method must be sought for.

10. *Experiments on animals.*

In the paper on "The Physiological Action of Medicines" which I read before the British Association for the Advancement of Science, at its meeting at Nottingham in 1866,[2] a protest was made against experiments for medical purposes on living animals. The objections to the practice are of two kinds: one set of objections arises out of considerations of its cruelty; the other comes from the evidences of its inutility. In my opinion any advantages which have hitherto been derived from such experiments are not sufficient to remove these objections.

Since this protest was made before the British Association, the subject has been considered by the General Committee of that scientific body, and the result of their deliberations is thus stated in the "Report" for 1871:—

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[1] Pereira's 'Materia Medica,' Vol. I., p. 869. 4th Ed.

[2] Essay XVI.

"A committee, consisting of ten individuals, having been appointed at the last meeting of the British Association, held at Liverpool in 1870, to consider the subject of Physiological Experimentation, in accordance with a resolution of the General Committee hereto annexed, the following Report was drawn up and signed by seven members of the Committee:—

"REPORT.

"I. No experiment which can be performed under the influence of an anæsthetic ought to be done without it.

"II. No painful experiment is justifiable for the mere purpose of illustrating a law or fact already demonstrated; in other words, experimentation without the employment of anæsthetics is not a fitting exhibition for teaching purposes.

"III. Whenever, for the investigation of new truth, it is necessary to make a painful experiment, every effort should be made to ensure success, in order that the suffering inflicted may not be wasted. For this reason no painful experiment ought to be performed by an unskilled person with insufficient instruments and assistance, or in places not suitable to the purpose—that is to say, anywhere except in physiological and pathological laboratories, under proper regulations.

"IV. In the scientific preparation for veterinary practice, operations ought not to be performed upon living animals for the mere purpose of obtaining greater operative dexterity.

"Signed by

"M. A. LAWSON, Oxford; G. M. HUMPHRY, Cambridge; JOHN H. BALFOUR and ARTHUR GAMGEE, Edinburgh; WILLIAM FLOWER, Royal College of Surgeons, London; J. BURDON SANDERSON, London; GEORGE ROLLESTON, *Secretary*, Oxford."

The resolution of the General Committee annexed to this Report contains the following clause:—

"That the said Committee be further requested to consider from time to time whether any steps can be taken by them, or by the Association, which will tend to reduce to its minimum the suffering entailed by legitimate physiological enquiries; or any which will have the effect of employing the influence of this association in the discouragement of experiments which are not clearly legitimate on live animals."[1]

A new committee was appointed to carry out this suggestion.

At present, perhaps, it may be said that the subject is open to two opinions. Those who doubt the propriety of such experiments will not be willing to make them; but they may lawfully learn—indeed they cannot but learn—what may be taught by the results of the experiments made by others, whose convictions allow of their being made.

A remarkable series of experiments was undertaken by an Edinburgh Committee of the British Medical Association, presided over and reported upon by Professor Hughes Bennett, in 1868, which deserves careful notice. The subject of enquiry was the action of mercury on the liver. The experiments were performed by Drs. Rutherford and Gamgee. They occupied two years. Thirty-three dogs were operated upon.

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[1] 'Report of the British Association for the Advancement of Science.' 1871.

Satisfactory observations could be arrived at in only eight of these. The conclusions drawn by the Committee from these experiments are given as follows:—

"1st. The relation of food to the biliary secretions is not so invariable as previous experimenters appear to think. . . .

"2nd. The relation supposed to exist between the amount of biliary secretion and the size or weight of the animal has not been supported by the foregoing observations. . . .

"3rd. Although an animal will live for a certain time without any bile passing into its alimentary canal, it would appear that, even when a fistula has been established without accident, the health begins to suffer, in periods varying from a few days to a few months. . . . . . . (contrary to the opinion of some former experimenters.)

"4th. Various circumstances apparently diminish the amount of bile secreted. The chief of these, as shown by the preceding observations, are starvation, diarrhœa, and mercurial poisoning. . . .

"5th. As to anything that enables us to increase the amount of bile, beyond the giving food and supporting health, we are unacquainted with it. Perhaps there is no opinion in medicine more widely spread, and certainly there is none more universally acted upon, than that mercury does so; in short, that it acts as a cholagogue. Yet not only have the few experimenters who have directed their attention to this subject, invariably observed that mercury rather diminishes than increases the secretion of bile, but the general results of the trials made by your Committee fully confirm this conclusion. We have seen that in whatever form or dose it may be given, such as continuous moderate doses of blue pill, minute and frequently-repeated doses of calomel, or large doses varying from 10 to 15 grains, it utterly fails to stimulate the liver. Its constitutional action has been excited slowly and rapidly by means of corrosive sublimate with a like result. In poisonous doses it produces a marked diminution in the flow of bile. In all these varied attempts, carefully repeated, under every varying circumstance that could be thought of, no evidence was obtained that mercury acted specially upon the liver at all. The exact measurement of all the bile secreted in eight dogs, first without and then with mercury, tends rather to show that, so far from increasing the flow of bile, it causes its diminution, through its general depressing action on the entire organism. This fact seems now to be so certain and thoroughly established, that the Committee consider it unnecessary to make any further researches on the subject."[1]

In the corresponding Report presented to the British Association for the Advancement of Science, at its meeting at Norwich, in 1868, the methods of performing the experiments are related; all details are given; and additional experiments with *podophilline* and *taraxacum* are described. The conclusions drawn from these experiments are that podophilline diminished the biliary secretion, and that taraxacum did not influence the biliary secretion in any way whatever. The Report, in conclusion, observes that—

> "On this and many other topics connected with therapeutics, what we require are not unfounded assumptions and vague speculations, but positive knowledge based on unquestionable data; these we have furnished, and consider them amply sufficient to demonstrate the fallacy of the opinions everywhere prevalent as to the cholagogue action of mercury."[2]

These extracts are long, but I trust their importance will justify me in giving them; and they will make the conclusions I have presumed to draw from the experiments of the Edinburgh Committee, and from their inferences, intelligible in few words :—

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[1] 'Medicine in Modern Times,' p. 229. 1869.

[2] 'Report of the British Association for the Advancement of Science.' Norwich, 1868.

1. Mercury *does act locally* upon the liver; the result of the action is a diminution, and not an increase, in the secretion of bile.

2. *This* action is the one which takes place in *healthy* livers.

3. Prof. Bennett is not entitled to infer from this action in health what may be the action in *unhealthy* livers. There is nothing in the experiments to show that this may not be the *opposite* of its action in health.

4. Experiments in disease are necessary, as well as experiments in health, to learn the action of drugs.

5. There is evidence, from experiments on the sick, that mercury increases, that is, restores when it is deficient, the secretion of bile, in some cases of disease. This may, and probably does, arise from the restoration of a more healthy state of the organ.

6. The conclusion drawn from these experiments by the committee, or the principal fact ascertained by them in reference to the action of mercury, is directly in accordance with the teaching of homœopathy and organopathy concerning the action of drugs.

Other experiments upon animals are being carried on at present. One series is conducted by Drs. A. Crum Brown and T. R. Fraser, the object of which is to prove the connection between chemical constitution and physiological action. Numerous experiments have been made upon rabbits and frogs. Another series is conducted by Dr. B. W. Richardson, partly with the view of introducting new anæsthetics, but mainly with "the idea of studying the action of substances which are to become remedies, not by the old and faulty method of so-called experience, but by proving physiological action and the relation of chemical constitution to physiological action." With the same object, therefore, as that of Drs. Brown and Fraser.

Dr. Richardson is very bold in his expectations. He says :—

"I am certain the time must soon come when the books we call 'pharmacopœias' will be everywhere reconstructed on this basis of thought, and when the chemist and physician will become one and one."

He even expresses the earnest hope that this "huge reform" will be commenced by Act of Parliament.

Enough has been said in the chapter on chemistry to damp such expectations as these, but all can sympathise with Dr. Richardson in the concluding words of his Report:—

"We cannot pretend, in reports like these, to vie with our more fortunate brethen in other departments of science. The physiologist has no ground of pleasant work in common with the astronomer, the geographer, geologist, ethnologist, or chemist. His researches are hard (unrelenting, I had almost said), excessively minute, laborious, and at all times, however absorbing, painful; many of them can, in fact, only be carried on under a sense of duty amounting to necessity, and with the sincerest, the most solemn feeling that they are being conducted for the ultimate benefit of all the higher classes of animal existence. In the preparation of this report I have held on throughout by this sense of duty, and earnest faith that good must come out of the labour."[1]

11. *Experiments on the sick.*

These bring us to a debating club of contention. In every age, but especially in ages of freedom and activity of thought, partly from good motives and partly from bad ones, a hot warfare of disputation has been carried on, and it has been continued without other change than that which fashion has made in the means in use. It is commonly asserted of opponents that they kill their patients, whether the doses given are poisonous on the one hand, or infinitesimal on the other.

They entangle us in a labyrinth of confusion. There is just light enough to make its darkness and chaos visible. The very various means which have been pressed into the service; the very different quantities of those means which have been made use of; and the multiplicity and diversity of the effects which have been produced by them—and this during a period of more than two thousand years—are more than enough to bewilder and discourage the most sagacious and painstaking student. Many times the same medicines are given in the most dissimilar diseases, and with opposite intentions; and yet hypotheses are never wanting to explain and vindicate these contradictory prescriptions.

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[1] 'Report of the British Association.' Exeter, 1870.

They usher us into a chamber of horrors. On entering it we see first the "helleborism" of the Greeks; on looking round, one set of violent measures presents itself after another, till we end with the intoxicating stimulants of the present day. It has one great redeeming character—the chamber is paved with good intentions. But the traditionary reference of this character to another place ought to teach us the stern lesson that good meanings and wishes do not justify bad works; and that, therefore, it behoves us all to see to it that we be found, not only influenced by good intentions, but also wisely practising right things. We are to remember that the anxiety of the patient for a cure, and the desire of the doctor for success, though they have encouraged, do not justify, the frightfully painful, and not unfrequently fatal experiments which, in every age, have been performed upon the sick.

What are experiments on the sick? Every dose of medicine which is given to a patient is an experiment. This is self-evident. A grave responsibility, therefore, rests on the physician who prescribes them, and he ought to be able, on every occasion, to give a sufficient reason for their administration.

Let us enquire what occupies the mind of the physician when he prescribes a dose of medicine.

His mind has been running in one of three grooves. The first has been cut out for him by hypotheses; and so deeply has this been cut, that a mind once fairly in it cannot, without the greatest difficulty, be got out of it. These hypotheses extend to the nature of the case, to the indications supposed to be furnished by the symptoms, and to the properties supposed to be possessed by the medicines. Such hypotheses are speculations congenial to man's nature (Lord Bacon's idols of the tribe), or they are pleasant reveries of the individual man (idols of the den), or they originate in intercourse with other men (idols of the market), or they are the teachings of popular professors (idols of the theatre). How these hypotheses have prevailed for a season, how each in its turn has been supplanted by another, how erroneous and mischievous they have all been, has, to some extent, been considered already in this Essay.

The second groove is that of empirical experience. This leads the practitioner simply to give again that which has been given before in cases presumed to be similar. When we reflect how wanting in plain evidence of success the giving of medicines has hitherto been, and consider what a multitude of diseases occur for which we have no known remedies at all, it becomes painfully conspicuous that the empirical method is defective and unsatisfactory beyond description.

The third is the groove of enterprise. This tempts the earnest-minded physician to try some new thing. It is not wonderful that the dissatisfaction arising from the actual condition of medicine should urge men forward in search of something better. And so new drugs are tried, or old ones are tried afresh, after a random manner, without rule or principle, in the hope that, by chance, some better remedies may turn up. In this way, while I was a student at Guy's and St. Thomas's Hospitals (then adjoining each other), Dr. Elliotson, at the latter, gave large doses of carbonate of iron (rust) for some time to every patient he had in the hospital, in the hope that it would cure some of them.

After all, very little has been learned, during two thousand years, from all these experiments upon the sick:—

Because pure observation has been clouded and distorted by the hypotheses of the speculating physician, or has been made vague and objectless by the want of a principle to guide the empirical practitioner.

Because, almost always, several drugs have been mixed together in the same prescription, and given at the same time; so preventing the effects of each being distinguished. And

Because the symptoms or effects of the drug given to a sick man are necessarily obscured by being complicated or mixed up with the symptoms or effects of the disease.

To have a distinct notion of what experiments on the sick have been, it is necessary to go into some details; and yet the subject is so vast that it is not easy to select any details which shall be sufficiently brief, and at the same time so illustrative of the whole as to give a distinct notion.

Perhaps this can be best done by selecting a single disease, and by going briefly, but with care, through the history of its treatment. For this purpose, I think, *gout* may be chosen as a representative disease. This also is an extensive subject; so that its history must be limited to the last two centuries, and to English writers.

Let us begin with *Sydenham*,[1] who tells us, in 1683, in the introduction to his Treatise on the Gout, that he had himself been a great sufferer from it for thirty-four years.

As to the nature of gout Sydenham is very explicit. He says:—

"Its only forerunner is indigestion and crudity of the stomach, of which the patient labours some weeks before.

"The more closely I have thought upon gout, the more I have referred it to indigestion." This indigestion he calls the *antecedent cause.*

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[1] 'Tractatus de Podagra et Hydrope,' per Thos. Sydenham, M.D. 1683.

The result of the indigestion is a foreign product in the humours. This he calls the *causa continens.* It is now called the *materies morbi.*

On the treatment he says :—

"In gout but three methods have been proposed for the ejection of the *causa continens*—bleeding, purging, sweating. Now, none of these succeed."

"Bleeding is clearly contrary to that indication which is required by the *antecedent cause,* which is indigestion."

"Sure I am that all purging above or below, mild or sharp, is mostly injurious."

"Evacuation by sweats, although less mischievous than the other two forms, is still prejudicial."

"I confidently affirm that the greater part of those who are supposed to have died of gout, have died of the medicine rather than the disease."

"If evacuants are out of place in gout, what are the indications of treatment? Two points are most particularly to be considered. The first is the *causa antecedens*, or the indigestion of the humours. The other is the *causa continens*, or the heat and exæstuation of the same, when they have become putrid and acrid. These two are as far as the poles asunder. What helps one hurts the other. Hence the difficulty of treatment. If we strive by heating medicines to subdue the indigestion, we run the risk of inflaming the humours; whilst moderate diet and cooling medicines, which allay the heat and acridity, cause indigestion, and impair the natural warmth."

But as medicines must be given, the following are recommended as *digestives* :—roots of angelica, elecampane, leaves of wormwood, lesser centaury, germander, ground-pine, &c., &c. And the *antiscorbutics* horseradish, scurvy-grass, water-cress, with the remark that these last are too acrid and pungent.

Then a prescription is given containing *thirty* simples, with this very interesting comment :—

"Different species of these herbs, in the form of a skilful mixture, do better than any particular ones alone. However much the rule of *the simpler the better* may apply to *specifics*, as often as we purpose to cure the patient by satisfying any particular *intentions*, a variety is best."

It need scarcely be pointed out how remarkably this vindicates by anticipation the single medicine of homœopathy; each medicine which is given according to this method, having the character of a specific.

Sydenham says no external remedies are known; and then adds: "We must look beyond medicine." For, "in gout the cause is a change and new nature of the system;" and to be cured the patient "must change his whole habit of body." This is to be attempted mainly by diet and exercise. "Moderation in meat and drink, so that the stomach receive no more food than it can digest." "The other extreme, as I have found in my own person, is equally injurious." "The palate of the patient must be consulted."

Salt and spices are injurious; he is not to take suppers, bed being "for the digestion of the humours, not for the concoction of the food." But a free draught of small beer may be taken, for this is an excellent preventive of renal calculi. "It cools and washes out the kidneys."

A milk diet, he says, has prevailed for the last twenty years. It does good while continued, but when left off the gout returns worse than ever.

London small-beer, hopped or without hops, is the best drink; if this cannot be taken, then weak wine and water.

Wine does harm, and increases the pain. Water is bad, unless taken always through life. Over-cooling draughts do not cause pain as wine does; they cause death.

If wine has been long taken it must not be left off suddenly and entirely. Sherry is better than Rhenish or French wines.

Late hours are bad—next to bleeding and purging.

Tranquillity of mind is essential.

But far above everything else is bodily exercise ; but unless taken daily, even exercise will be useless. This also must not be excessive.

The exercise of driving should be taken *in* the fits; riding on horseback, except in old age or when there is calculus, *out* of the fits.

All these things, however, will not absolutely prevent the recurrence of fits. A radical cure of gout "lies, like truth, *at the bottom of a well.*" "Some such remedy may at some future time be discovered."

The very great value of these remarks of Sydenham will, I hope, be a sufficient apology for the space they have occupied. Nothing could more distinctly show the failure of drug treatment, up to that time, of a disease only too well known in every age of civilised life.

The next author to be noticed is *Dr. Cheyne*,[1] who, in 1721, advances a step further in the discovery of the nature of the *causa continens* of gout. He declares it to consist in tartarous and urinous salts introduced into the blood by the food ; the former from the wine drank, the latter from the animal food eaten. Dr. Cheyne's hypothesis is that in gouty persons the capillaries or "smallest vessels are narrower and more stiff or tense than those of others." That a fit of gout is caused by the obstruction which these salts meet with in the capillaries where they are compressed in the joints, and thus pain, inflammation, and fever arise from "an effort of nature to throw off these salts through the stiff and narrow strainers."

"Hence it is evident there can be only two direct ways of treating the gout with any prospect of success. The one is by stretching and widening the capacities of the smaller vessels, and relaxing their fibres. The other is by lessening the quantity of the salts introduced into the fluids by the food."

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[1] 'An Essay on the Gout,' by Geo. Cheyne, M.D., F.R.S. 3rd Edition. 1721.

The first intention can be best answered by "wisely managed exercise"—not too violent, and "moderation in eating and drinking being joined with it." And

"There be two distinct ways of lessening the quantity of the salts which produce the gout. The first is, by a total abstinence from, or a great abstemiousness in, flesh, fish, and strong liquors, which introduce those salts into human fluids. But this requires great caution, because an entire vegetable diet weakens all the digestive powers and all the functions of life; and because this diet once entered upon is never after to be changed under the danger of certain death."

"The other direct way of banishing the salts out of the habit is by evacuations. Sydenham, otherwise a most accurate observer of nature, and a most judicious practitioner, has been the occasion, I think, of a great mistake in the management of the gout, by forbidding almost all evacuations."

"The secondary or less direct methods of relieving the gout are first, dilution by proper liquors; secondly, strengtheners of the instruments of the digestion." The first are Bath and other waters; dwarf-elder tea; trefoil tea; light, quick, green tea; and small spicy bitters in water.

For the second, "*the Jesuit's bark* (cinchona), in generous claret is the most powerful strengthener of relaxed fibres in the instruments of digestion and the greatest antidote of the urinous salts." *Chalybeates* and the "*glans quercina* or acorn," may be added.

"*Mercury*, by its weight, seems to offer fairest for breaking the gouty salts, for relaxing the fibres, and for enlarging the small vessels, and the fact is, that by a full and free salivation gouty people have been freed from all its symptoms for several years. But it is also matter of fact that the body becomes in a worse state in respect of the future fits, than it would have been under the common symptoms; the man is seldom or ever the same as he was before the salivation."

During the fit several medicines are to be given, "such as Gascoin powder, Goa stone, bezoar, Sir

Walter Raleigh's cordial, diascordium, confection of Alkermes, and the like."

In the intervals a succession of specifics are to be administered. The first is,

"*Rhubarb*, taken regularly, once, twice, or oftener a week, in such dose as to procure two or three motions." "It is worth taking notice that all the preparations of this medicine serve only to spoil it."

"Next to rhubarb, and even far before it, I would recommend *sulphur*. It is but in little use at present in physic, except in the itch and the piles, and yet in the whole extent of the *Materia Medica* I know not a more safe and more active medicine."

"I have known half a drachm of powered sulphur, taken regularly twice a day, in a spoonful of milk, prevent the fit for many years, and lessen both its pain and duration when it happened, for it moved the body gently once or twice a day." "Especially if to these (rhubarb and sulphur) be added plentiful dilution by some blood-warm infusion of a spicy and diuretic plant in water, so as to provoke a gentle breathing sweat, and pass freely by urine. Thus large draughts of sage, dwarf-elder, buck-bean, or green-tea; but especially of weak whey made on old Mountain, drunk blood-warm, and on an empty stomach, and joined to any of the now mentioned medicines."

"But beyond all other things, a well ordered course of *Bath* waters, with chalybeates, and warm bitters, and a frequent and regular use of stomach purges, will be found to succeed best."

"For a concluding observation," Cheyne, like Sydenham, says :—

"Temperance only, divine, innocent, joyous temperance, can cure or effectually relieve the gout. For let us, or our brethren the quacks, brag what we will,

"Tollere nodosam nescit medicina podagram."

It would have been well for the sufferers from gout, if the moderate counsels of Sydenham had never been further departed from than they were by the rhubarb and sulphur of Cheyne. But this did not happen. The more violent measures continued to be the favourite plans.

Dr. Dover,[1] in 1732, gave the result of forty-nine years of practice, as a legacy to his country. His treatment of disease is not unfairly represented by a patient who was "very weak in a consumption," and who recovered after having been "blooded at least fifty times;" and by his favourite prescription, an ounce of quicksilver to be taken every morning, for a month, as "the most beneficial thing in all the world."

On Gout, he says :—

"There have been so many unsuccessful attempts made to master this disease, that patients have very little faith left, and, as they commonly say, have no hopes from any thing but patience and warm flannel: but with submission, keeping the part warm is wrong, because it is *proprium caloris attrahere;* and does, beyond doubt, attract gouty matter to the part."

He then prescribes tamarinds, senna, rhubarb, manna, purging syrup of roses, syrup of buckthorn, and elixir proprietatis, with posset-drink between the motions; and opium, saltpetre, tartar vitriolated, ipecacuanha and liquorice on going to bed—"covering up warm and drinking a quart or three pints of posset-drink while sweating."

"Mynsycht's elixir of vitriol taken often in large quantities, most certainly destroys gouty matter, yet for some time it may cause pain; but taken in its due latitude, if water will quench fire, it must in the end have its desired effect."

Dr. Cadogan[2] (1760) and his opponents[3] appear next in a very lively discussion on gout and its treatment. I must content myself with a single extract from his book, as a specimen of the style in which the subject is handled :—

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[1] 'The Ancient Physician's Legacy to his Country.' 1732.

[2] 'A Dissertation on the Gout,' by William Cadogan, Fellow of the College of Physicians. Sixth edition. 1771.

[3] 'Observations on Dr. Cadogan's Dissertation on the Gout,' by William Falconer, M.D. Second edition. 1772. &c.

"The gout is so common a disease that there is scarcely a man in the world, whether he has had it or not, but thinks he knows perfectly what it is. So does a cook-maid think she knows what fire is as well as Sir Isaac Newton. It may therefore seem needless to trouble ourselves to say what it is : but I will venture to say what I am persuaded it is not ; though contrary to the general opinion. It is not hereditary, it is not periodical, and it is not incurable."

Cullen[1] in 1780, after trying all plans and meeting with nothing but disappointment, fell back upon "patience and flannel alone." His discouraging experience makes him say :—

"I am much disposed to believe the impossibility of a cure of the gout by medicines ; and more certainly still incline to think, that whatever may be the possible power of medicines, yet no medicine for curing the gout has hitherto been found."

Heberden[1] who was at the head of his profession in London while Cullen was flourishing in Edinburgh, on the contrary, writes, in 1782, against flannel and rest, and says :—

"I have known several, who instead of nursing a beginning gout with warmth and repose, have used the utmost resolution and exertion in moving and exercising the limb, which they found themselves gradually able to do more and more, till at last they recovered its perfect use, free from any feelings of pain, and without manifest ill consequences."

"The great Dr. Harvey, as I have been told by some of his relations, upon the first approach of gouty pains in his foot, would instantly put them off by plunging the leg into a pail of cold water.

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[1] 'First Lines of the Practice of Physic,' by William Cullen, M.D. Ed. of 1812.

[2] 'Commentaries on the History and Cure of Diseases,' by William Heberden, M.D. Second edition. 1803.

"I do not recommend Dr. Harvey's example as proper to be imitated, though it is known he lived to a good old age; but I am not warranted by any experience to condemn the practice of endeavouring by exercising the limb to prevent the gout from settling there." "I never could see any reason for adding at all to the usual covering of the limb." Heberden gave a variety of stomach medicines, but he adds, "we are still greatly in the dark about the causes and effects of gout, and the right method in which it should be treated."

Mason Good,[1] who was also himself a great sufferer from gout, contends, in 1822, that when the constitution is otherwise healthy and vigorous, what is called the antiphlogistic treatment may be fully carried out, without fear of a metastasis to an internal organ. For several years he obtained, in his own person, great benefit from the external use of cold water; but afterwards, as his general health became weaker, he confined himself to the wine of colchicum.

Dr. Todd,[2] in 1843, prescribed moderate purging with blue-pill and salines, as Epsom salts, and *alkalies.* In sthenic gout colchicum in small doses, *so as not to excite nausea, vomiting, or purging.* In 1851 he gave opium and sesqui-carbonate of ammonia, with free counter-irritation by mustard and turpentine and blisters, and says, "*lemon-juice* is a valuable remedy."

Dr. W. Gairdner,[3] on the other hand, in 1849, thinks that the watery evacuations of neutral salts are injurious, and that the warm aperients are far better—such as senna, rhubarb, aloes, jalap, and scammony, with warm aromatics, which is consistent with the older writers. But he also recommends small bleedings, which he says, "act as a tonic!" With regard to colchicum, he agrees with Dr. Todd, that it "never more effectually relieves the patient than when it acts *silently and peacefully*, without producing any evacuations whatever, or in any way disturbing the patient's comfort and ease."

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[1] 'The Study of Medicine,' by John Mason Good, M.D., F.R.S. Third edition, edited by Samuel Cooper. 1829.

[2] 'London and Edinburgh Medical Journal,' 1843. 'Medical Gazette,' 1851.

[3] 'Medical Times,' 1849.

Mr. Anthony White[1] approaches to Sydenham as a writer on gout. In 1818 Mr. White was surgeon to Westminster School, where I had the pain of knowing him, for he ordered Mapleson to cup me, and followed the cupping with a blister, for inflamed eyes from hooping-cough, when I was a boy in the school; he was afterwards President of the Royal College of Surgeons. In 1848 he had been a subject of gout for forty years. He gives us in his paper, first, "the actual state of our knowledge as to the intimate nature of gout," from Dr. (now Sir Henry) Holland. This is—1. That it is hereditary. 2. A *materies morbi.* 3. Has a relation with lithic acid and the calculous diathesis. 4. Is in the blood. 5. An attack is the removal of this matter. 6. Both liver and kidneys are implicated.

Mr. White considers the cardinal principle to be "a *materies morbi* circulating with the blood." He thinks Dr. Holland is wrong in blaming the kidneys; on the contrary, their action is beneficial in removing the offensive matter. He thinks the gouty poison is not identical with lithic acid, because the paroxysm may occur without excess of this acid in the urine, and *vice versâ*. (We shall see this explained by Dr. Garrod.) But the remarkable fact in Mr. White's personal experience is the part played by the *liver* in his case. Whenever he adopted the patience and flannel method, the fit always ended in a violent discharge of bile from both the stomach and bowels. This he could always prevent by taking four medicines, viz. calomel, colchicum, aloes, and ipecacuanha. It was very natural for him to conclude that the principal seat of the gout is the liver. It was so in his case, and such a case may therefore be met with again. But it remains true that Sydenham's experience is much more common, and that the stomach is generally the organ chiefly disturbed.

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[1] 'On the Nature and Treatment of Gout,' by Anthony White, Esq., 'Medical Gazette,' 1848.

We now come to *Dr. Garrod*,[1] whose analyses of the fluids in gout have been persevered in for so many years, and who seems to have told us what the *causa continens* of Sydenham, the *materies morbi* of Sir Henry Holland, the gouty poison of every body, really is.

In 1848 Dr. Garrod ascertained that the *blood* in gout always contains uric (or lithic) acid; and that it is diminished in quantity, or is absent in the urine *before* a fit. So that the failure in its excretion by the kidneys seems to be connected with the accession of a paroxysm, when the uric acid is thrown upon the joint. No uric acid is found in the blood in rheumatism.

In 1858 Dr. Garrod is still more definite in his announcements.

In acute gout:—

1. The urine is small in quantity, and the uric acid contained in it is diminished.
2. As the attack is mitigated, much larger quantities are passed.
3. The uric acid becomes again less, but not so little as at the beginning.

In chronic gout:—

The uric acid in the urine is very much diminished; there is a small amount of albumen; the urea remains as in health.

Between the attacks:—

The uric acid excreted is less than in health.

As to the influence of *colchicum* (between 50 and 60 analyses):—

In healthy cases either a slight diminution of urine and uric acid; or a notable diminution of urine, with an increase of uric acid.

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[1] 'Medical Gazette,' 1848. 'Medico-Chirurgical Transactions,' 1848, &c. &c.

In recovering cases, no positive change; or both urine and uric acid diminished.

The conclusions of Dr. Garrod respecting the action of colchicum are :—

1. That there is no evidence to prove that colchicum produces its effects upon the system by causing an increased excretion of uric acid.

2. That colchicum is not always a diuretic.

3. That colchicum has no marked influence on the urea.

Dr. Garrod's treatment in 1859 was as follows :—

In acute gout—to give some simple *alkaline* saline with moderate doses of colchicum; if necessary, purgatives, and to take away a few ounces of blood. If the patient is low, sesquicarbonate of ammonia, and no colchicum; cotton wool and oiled silk, and a small blister, with amylaceous diet and diluents.

In chronic gout—to augment the various secretions; restore the digestive organs; attend to the local mischief; to regulate carefully the diet; and to give a new remedy, *carbonate of lithia*, which forms soluble salts with uric acid.

Mr. Alexander Ure,[1] in 1841, proposed as a chemical remedy, *benzoic acid*. This forms hippuric acid and hippurate of soda in the urine, in the place, as he supposed, of uric acid and urate of soda. In 1849 Dr. Garrod, after giving benzoic acid, found, indeed, hippuric acid in the urine, but that the amount of uric acid was not thereby altered. The effect of the fixed alkali *lithia* has not yet been sufficiently examined to be fully ascertained; but Dr. Jas. Duncan[2] says, in 1865, that dilute hydrochloric acid with cascarilla is of more service than potash or lithia water.

The contradiction on the subject of an alkaline, or an acid treatment, is very remarkable. Dr. Todd, in 1843, Dr. Garrod, and others strongly advocate alkalies; Dr. G. O. Rees, Dr. Todd, in 1851, and Dr. Wm. Moore, give lemon-juice, and Dr. Duncan, as just noticed, hydrochloric acid. Monsieur Trusseau (if I may mention a Continental writer), contends that as to alkaline preparations, such as Carlsbad, Vals, and Vichy waters, there is not a more dangerous medication in the world. On the other hand, he does not advocate acids, but Peruvian bark, quoting a sentence of Held, who said, "Uno verbo, cortex Peruvianus in podagrâ divinum est remedium." He calls flannel an evil habit, and recommends washing in cold water in summer, wet sheets, &c., to accustom the body to resist cold.

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[1] 'Medico-Chirurgical Transactions,' 1841.

[2] 'Dublin Quarterly Journal,' 1865.

Amid all this confusion and contradiction there is but one thing respecting gout in which all authors agree, namely, that it rarely, "if ever," occurs in young persons. Perhaps, therefore, the following fragment of personal history may be sufficiently interesting to justify its introduction. My family has been subject to gout. William Sharp, my uncle, whom I succeeded as a surgeon at Bradford, died in about two hours from gout transferred from the ball of the thumb to the stomach. While on a visit to this uncle I had a fit of gout in the great toe, *when about ten years old*, and have never had another. This entire freedom since from gout I attribute, under God, to the abundance of exercise taken every day. Sydenham preferred riding on horseback; this I practised for sixteen years, but was compelled to give it up from the indigestion it caused; since that time all my exercise has been on foot. It may perhaps be useful to add that though always living temperately, I have never lived abstemiously, unless drinking only water till I was twenty-five be considered abstemious living; and that I have been greatly indebted to *pulsatilla* as a remedy for indigestion.

On looking back upon this brief survey of our medical knowledge of gout, a crowd of reflections force themselves upon the mind. Some of these must be noticed before the subject is left.

The hereditary predisposition does exist in some families.
It may be successfully kept in abeyance.
Full living, indolence, and vexation may induce gout in any one, whether predisposed to it or not.
The peccant matter, gout poison, or urate of soda, should be viewed as a product of the disease, rather than as the *materies morbi* or disease itself.
There is a previous derangement of the digestive organs, particularly of the stomach, more rarely of the liver.
It is of less consequence to treat cases of gout as acute or chronic, than to consider whether the patient is in an entonic or atonic condition.
To eliminate the poison of gout should not be the primary object of treatment.
Treatment by evacuations of any kind is a mistake, and in the end does harm.
Chemical treatment, up to the present time, is a failure.
Dr. Garrod's analyses, confirmed by Dr. Harley's, are positive as to the presence of uric acid or urate of soda in the blood of gouty persons; but they are negative as to the action of colchicum upon these substances.
Colchicum is as useful in rheumatism as in gout; and there is no uric acid or urate, but lactic acid, in rheumatism.
The manner of acting, therefore, of small doses of colchicum, is as entirely unknown to us as is that of all other specifics.
The treatment which does most good is specific treatment, which is *silent and secret.* We do not know its nature now, and I believe we shall never know it.
The specifics for the relief of the gouty paroxysm

which we know are bryonia, colchicum, rhus, and cinchona.

There are probably others, such as ash-leaves or seeds, germander (teucrium chamædrys), ranunculus, winter-cherry (physalis alkakengi), veratrum viride, piper methisticum.

The experience of Drs. Todd, Gairdner, and Garrod, as to the efficacy of the "*silent and peaceful*" action of colchicum, is strong testimony in favour of homœopathic or specific treatment.

The advice to regulate or augment the secretions is very plausible, but it is fallacious. If we cure disease the secretions will regulate themselves.

To restore the functions of the digestive organs to a healthy state, in the intervals of the fits, should be the first object in the treatment of gout. *Pulsatilla* must not be forgotten in cases like Sydenham's; nor *chamomilla* in a case like Mr. Anthony White's.

Much may be done by specific medicines; but even these must in the end fail, unless they are seconded and supported by a suitable manner of life as regards food, exercise, and peace of mind.

This history of experiments on gout is a fair sample of experiments on the sick. And it is a sufficient proof that these experiments, which have been carried on for three-and-twenty centuries, have failed to establish a principle for the treatment of disease by medicines.

12. *Experiments on the healthy.*

The truest vindication of these experiments, and therefore the most becoming introduction to the subject, is contained in the first sentence of "The Great Instauration" of Lord Bacon:—

"Francis of Verulam
thought thus—

"Of the state of learning.—That it is neither prosperous nor greatly advanced, and that *an entirely different way* from any known to our predecessors must be opened to the human understanding, and *different helps* be obtained, in order that the mind may exercise its jurisdiction over the nature of things."

If we substitute the word "medicine" for "learning," the sentence will still be true of this branch of knowledge. It is the unanimous confession of those best acquainted with medicine, that as a science it is "neither prosperous nor greatly advanced;" though it has not hitherto been their conviction that "an entirely different way" must be opened, if it is to make any great advance. Without experience to the contrary, it would have seemed natural that such a conviction would necessarily follow the confession. But this has not happened.

It is the truth of this sentence of Lord Bacon which justified Hahnemann, and which justifies us, in his and in our endeavours after the discovery of an entirely different way from any known to our predecessors.

And the way proposed and entered upon by Hahnemann, and pursued by ourselves, is the way of learning the properties of medicines by experimenting with them, not only on the sick, but also on the healthy.

As two Essays (on "Provings in Health," and on the "Physiological Action of Medicines") have already been occupied with this subject, I will content myself, on this occasion, with offering only a few remarks.

1. Let us not aim at impossibilities. In undertaking these experiments on the healthy, it is of great importance that we limit our endeavours within the bounds of what is possible to us. If we neglect this precaution, much time and effort will be thrown away, and we shall reap disappointment. For example, if we propose to ourselves to find out the *manner in which drugs act*, we shall soon get out of our depth,

and our labour will be lost. I know that some do not agree with me in this persuasion. The discussion of it cannot be entered upon at present, but I commend to those who differ from me on this point the following sentence of Sydenham:—

"However much, by seriously inclining our minds, we may discover what nature does, and by what organs she does it, the way in which she does it will always be unknown to man."[1]

2. Let us not stop short of what is possible to us. It is not surprising to find that the first efforts to make progress in a new path are defective. And many are now disposed to agree with me that the limitation of these experiments on health, by Hahnemann and his followers, to the enumeration of symptoms, is not doing all that it is needful to do. For if, on the one hand, it is a mistake to attempt what is beyond our power; it is, on the other hand, also a mistake to neglect to aim at doing all that is within our power. It has often been contended in these Essays, that when experiments with drugs in health are undertaken, besides the phenomena or appearances produced, called symptoms, being noted, the seat of these symptoms, or *the organs to which they belong*, should be noted also. It is freely granted that the connection between a symptom and its origin may sometimes be very difficult to trace; but it will not be argued that it is impossible to trace it—that it is beyond our natural powers; and if it be granted that it is within our power, it must immediately be granted that it forms part of our duty.

3. We are pursuing "an entirely different way from any known to our predecessors." It has been earnestly contended that, with very few exceptions, the only action of drugs which is required of them, as remedies in disease, is that which they perform "silently and

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[1] 'Sydenham's Works,' by the Sydenham Society, Vol. II, p. 84.

peacefully." This is the action which was formerly called "alterative," and now "specific." These terms imply two things:—that it is unaccompanied by signs perceptible by our senses; and that we know nothing of the manner in which it is performed.

The general adoption of this method of prescribing drugs would bring about a greater revolution in the practice of physic than has ever yet been dreamt of. And yet it is obviously in the right direction. "Nature is pleased with simplicity," said Sir Isaac Newton, and "more is in vain where less will serve." All real improvements in art are in the direction of greater simplicity.

When it is considered that this method leads to the ignoring of all established indications; to the renouncing of all former intentions; to the laying aside all that is usually called "active" treatment; it is not surprising that it is very repugnant to the majority of the profession, or that from them it meets with very determined opposition.

To see, in our future works on Materia Medica, no more catalogues of drugs arranged under the heads of "emetics" and "purgatives," "diaphoretics" and "diuretics," "sialagogues" and "deobstruents," is an anticipation too astounding to be contemplated with equanimity — too impossible to be realised. But this is the future which we humbly hope is before the profession.

And when the prejudices of education and the power of present habits have been overcome by the force of truth and the evidence of facts, what a beneficial change will have been brought about! Medicines, instead of being nauseous draughts, will have become pleasant charms; and physicians, instead of being shunned and dreaded, especially by children, will be welcomed and loved.

This silent and peaceable action of medicines, secret and hidden from our knowledge as to its manner, but very visible in its beneficial effects, is the "entirely different way from any known to our predecessors" which it is our happy privilege to advocate and defend. Instead of all the perturbative methods of the past, this is the curative method of the future.

4. The experiments with drugs in health are the "different helps" which Lord Bacon says must be obtained, in order that this entirely different way may be opened.

We want to learn of a drug, not whether it is a purgative or a diuretic, but what is its specific action—that action which is a disturbing action in health, and a silent and peaceful action as a remedy in disease. Experiments in health are *helps* in the acquirement of this knowledge. The specific action of a very few drugs has been discovered accidentally. The experiments in health which have already been instituted have helped to increase this number greatly; a continuance of them may reasonably be expected to add many more to the list, and to make our knowledge of them much more perfect.

5. The help which Hahnemann got from these experiments was obtained by observing the similarity of the *symptoms* produced by them to those of diseases; and he prescribed according to this similarity.

The help which I am now seeking to obtain is by observing the *seat* of the action of drugs, and its identity with that of diseases; so that a drug may be prescribed which has its action where the disease is principally situated.

There cannot be a question that this is more definite knowledge than that obtained by the mere observation of symptoms. And if more definite, then in the same proportion must it be more valuable.

6. When this identification of the seat of the action

of the causes of disease, with the seat of the action of each drug, has to some extent been accomplished, a further *help* may be sought from experiments in health, by the discovery of the similarity and contrariety in the *kinds* of action of diseases and drugs.

After observing the symptoms, or signs of an action; and after discovering its seat, or the organs in which it is taking place; we may try to learn what sort of action it is. This is a further step in advance, and consequently the difficulties will increase.

In the study of nature our first task is the observation of facts. This belongs to our bodily senses, and the value of the performance of the task is determined by its accuracy. The difficulties which beset the duty, are the imperfections of our senses, and our hastiness in using them. Our next task is the interpretation of these facts, the learning their true meaning. This belongs to the mind. The difficulties which hinder its being rightly performed, are the weakness of our mental faculties, and the strong tendency which exists in us to invent hypotheses, that is, to guess at interpretations, rather than wait till the mind can observe them.

When, therefore, we endeavour to discover the kind of action which a disease or a drug is producing in an organ, we cannot exercise too much caution. The observations must be wary and prolonged to learn the facts; and it is absolutely necessary to confine ourselves to the use of words which simply express the facts observed, and which do not suggest any hypothetical explanation. For instance, if we see vessels become smaller or larger than they were before, instead of calling this a stimulant, an astringent, or a relaxant effect, let us be content to say of the vessels, as we say of the pupil, that they are contracted or dilated. The same caution is, if possible, still more imperatively required, when the mind attempts to interpret the meaning of the facts.

7. It may be noted in this place, that the fact which lies at the foundation of the difference between the disturbing action in health and the peaceful action in disease, is the difference in the dose. Organs in a state of health are, generally, not disturbed by a dose which is found by experience to be sufficient to act upon them curatively in disease.

Different doses of the same drug sometimes act upon different organs of the body in health; but doses, smaller than those given in health, can always be found, which act upon the corresponding organs in desease.

The subject of doses is a wide and interesting field for dispassionate and very careful enquiry and observation; but it is one of extreme difficulty and obscurity. The motto for it Lord Bacon has given us in these words:—

"In all our investigations of nature we must observe what quantity or dose of the body is requisite for a given effect; and must guard ourselves from estimating it at too much or too little."

8. Let us also note, once more, the direct object and the use of these experiments in health. They are these:—

First. To learn the action of each drug by itself, unmixed with other drugs.

Second. To learn the action of drugs, uncomplicated with the symptoms of disease.

Third. To discover the specific action of each drug; that is, to learn the organs upon which it acts, and the kind of action.

Fourth. To apply these discoveries to the treatment of disease; experience having taught us that the same organs which are disturbed in health by certain doses, are silently and peacefully cured in disease, by certain smaller doses.

9. Let us observe the indirect uses of these experiments. One branch of knowledge can generally throw

some light upon another, and this indirect use is not wanting in experiments upon the healthy. If we take the drugs which are known by experience to have a useful specific action in a particular disease, and make comparative experiments with them in health, we are sure to gain some information as to the seat or nature of the disease in question.

We have lately been studying gout. I may suggest, in illustration of the last remark, that if we were to take up this disease, and examine the drugs given for it as remedies, it is obvious that, at starting, we must lay aside the remedies given on the evacuating plan; we must also lay aside such disputes as whether cold purgatives, like Epsom salts, or warm ones, like jalap, are to be employed; or, whether alkalies or acids are to be preferred; and, for the present at least, we must lay aside the tentative experiments of the chemists, such as the benzoic acid of Mr. Ure, the alkaline lithia of Dr. Garrod, and the phosphate of ammonia suggested by Liebig. Only the specifics remain; these may be taken, and a comparative examination be made, in order to discover what there is in common in their action in health. The reflex benefit would be a better knowledge of the nature of gout.

The drugs are such as bryonia, colchicum, rhus, and cinchona; pulsatilla, nux vomica, rhubarb, and sulphur. Let me propose as a subject of study, the question—How far do these drugs agree in their symptoms, and in the seat and nature of their specific action?

In the same manner the principal known remedies for other ailments may be studied, *e.g.* ipecacuanha, sambucus, and arsenic, for asthma.

The curative action of even a single remedy in a disease, the pathology of which is obscure, may throw considerable light upon that obscure pathology, simply in consequence of the experiments made with the remedy in health. To my mind chamomilla has done this for some cases of diabetes.

10. Another indirect use of experiments with drugs

upon the healthy. It awakens attention to the possible difference of cases whose symptoms are similar. It is a fact that cases of disease present themselves, the symptoms of which are so similar that they may readily be considered cases of the same disease; but the causes of which are so different that, to confound them in this way, would be to make a serious mistake. For example: Belladonna may be so taken in health as to produce all the symptoms of scarlet fever. This has often happened. But this similar of scarlet fever has never been communicated to others in the manner that real scarlet fever is. It is wanting, therefore, in the infectious or contagious element, which is the true cause of genuine scarlet fever.

11. It may be worth while to repeat that the information sought from these experiments is derived mainly from two sources. The more severe effects of drugs are learned from cases of poisoning, in whatever way brought about; the less severe from voluntary provings. On this account Christison on Poisons, and other similar publications, are very valuable, in a direction not contemplated by these writers on "Legal Medicine."

12. Some of the effects of drugs can be obtained by the topical application of them; and these become striking proofs of local action. For example: The pupil of one eye may be dilated to the uttermost by *belladonna;* and at the same time, in the same person, the pupil of the other eye may be contracted to the size of a small pin's head, by the *Calabar bean.* But generally the experiments are made by the drug being taken internally. In many instances the effects are the same, whether the drug is swallowed or introduced through a wound in any part of the body. On the other hand, of animal poisons, it is remarkable that even those which are most deadly when inserted by a wound, may often be swallowed without any injurious effect.

13. Many drugs act powerfully upon more organs than one; and the more there are of points of contact between the drug and the disease, the greater is the confidence with which it may be prescribed. For example: For a feverish headache belladonna may be given as a remedy. If, in addition to the headache, there is an inflamed conjunctiva, the belladonna may be given with increased expectation of good. If further, the throat is inflamed, the probability of success is still greater. If, to all these symptoms there is added a scarlet rash, the probability becomes almost a certainty; provided that the inflammatory condition of these several parts is not complicated with grave symptoms of some other kind, which may, in fact, be such as to change essentially the character of the case.

In like manner, a patient suffering from colic, or spasmodic pain in the bowels, may be relieved by nux vomica. If there are also cramps, or twitchings in the extremities, it will almost certainly succeed. So, in cases pointing to ipecacuanha, if, in addition to the other symptoms, there is nausea or sickness, it may be given with great confidence. Again, some affections of the heart are cured by spigelia; the cure will be more likely to be effected, if there is also in the case neuralgic pain about the eyes.

14. These remarks cannot be concluded without the expression of regret that many provings of drugs have been published, in which a great want of seriousness and distinctness of object is apparent. Others are disfigured by a multitude of insignificant sensations and observations, calculated rather to bring disgrace upon the physician than benefit to the patient. The undertaking is one which should be promoted by every member of our body, but it should be warily done, with a clear purpose in the mind, with thoughtful gravity, with active suspicion of error, and with freedom from bias towards any foregone conclusion.

We are now able to answer the question with which this Essay commenced. How is the action of drugs to be discovered? Not in any of the ways hitherto commonly pursued; but in a new way. First, by experiments made upon ourselves and our friends while in a state of health. By these experiments we learn the power of which drugs possess to *disturb* the health of the different organs of the body; and also how each drug may be characterised, and distinguished from all the rest. And secondly, by giving them to the sick under the guidance of the results thus obtained in health. In this way we learn their *healing* powers.

The only difference, in respect to the drug, between the experiments in health and the prescriptions in sickness, is the quantity or dose to be taken. In the experiments the dose must be large enough to produce symptoms of disturbance in some organs of the body. In the prescriptions the dose must be small enough to avoid causing such symptoms, but large enough to act curatively, though peacefully, upon the diseased parts.

May I without presumption conclude this Essay by addressing a few words of encouragement to those of my medical brethren who have toiled through a practical trial of homœopathy, amidst much discouragement and obloquy; and also to those who are beginning to find themselves mistaken in the condemnation of homœopathy in which they have hitherto joined?

Our medical authorities, and the great bulk of our colleagues, headed by the late Sir Benjamin Brodie, have not been ashamed to speak of homœopathists and to treat them as impostors or fools; forgetting that they are men educated like themselves, that they have investigated Hahnemann's system with a free spirit and in a practical manner, and have conscientiously adopted what in it they believe to be true. It is a great and unjust indignity, and, unless it is repudiated, it will one day recoil with heavy severity upon themselves.

Let us not desire the evil day. Let us rest assured that it is sufficient for ourselves to know that the self-denial, discomfort, and pain undergone, and the amount of time and thought expended on such experiments in health, as were begun by Hahnemann, and have been carried on since by many others, are a sufficient testimony of our honesty; and that the successful results with which these labours have been crowned, are a good proof of at least an average amount of intelligence and sense.

While many have thus spoken disparagingly of the labourers, they have not been afraid to appropriate the labours. But the attempts which have been made, during the last few years, to introduce homœopathic remedies as new discoveries, or accidental observations, are surprisingly puerile. The authors must have forgotten the declaration which we have on the highest authority, "There is nothing hidden which shall not be known."

Happily, the tide is now turning. Some of our eminent men, who, through unacquaintance with the facts, were carried away by the strong current of condemnation, have gained this information, and are beginning to acknowledge their mistake.

These, I doubt not, will be followed by others, and in the end, useful truth will prevail and patient conscientiousness will triumph.

The useful truth may not be Hahnemann's homœopathy unaltered, but a system of therapeutics springing [illegible] a system matured by degrees, freed from all [illegible] and founded upon a sure basis.

ESSAY XX.

THE ACTION OF DRUGS.

(*CONTINUED.*)

> "God hath created medicines out of the earth; and he that is wise will not abhor them."
>
> ECCLESIASTICUS xxxviii. 4.

ANALYSIS.

What is the action of drugs?
What is Life?
What is the action of drugs?

1. The action of drugs is injurious in health.
2. It is curative in disease.
3. It is consecutive.
4. It is local or partial.
5. It affects the same part in disease as in health.
6. It is characteristic of each drug.
7. It differs with the dose.

ESSAY XX.[1]

THE ACTION OF DRUGS.

(*CONTINUED.*)

"We want to learn distinctly and clearly what is the action of drugs." SIR THOMAS WATSON.

"*We want to learn distinctly and clearly what is the action of drugs.*" It is implied in this sentence from Sir Thomas Watson's recent inaugural address to the Clinical Society of London, that, up to the present time, the action of drugs is *not* distinctly and clearly known.

Sir William Gull, in his address on "Clinical Observation," lately delivered at Oxford, makes the acknowledgment itself. "My subject," he says, "lies on the confines of human knowledge; and too often the

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[1] First published in 1872.

Since this Essay was printed, I have had the privilege of hearing the second of Dr. Bristowe's Croonian Lectures at the Royal College of Physicians, on "Disease and its Remedial Treatment," and of reading a report of the three lectures (in the 'Lancet' for March 23, 1872.)

These Lectures, I regret to say, are melancholy and discouraging. At the end Dr. Bristowe says, "It is easier to pull down than to build up;" which testifies what the tenor of his Lectures has been. And truly a more ruinous pulling down of all so-called orthodox treatment is scarcely possible.

Another London physician, Dr. Alfred Meadows, lat highest effort of the clinical student is to arrive at some feeble probability, in the presence of uncertain, or even delusive evidence." Again he says: "We have no ignorance to cloak, for we confess it."

Any effort, therefore, to remove some of this ignorance, and to make our knowledge of drugs, and their therapeutic use, more distinct and clear, by whomsoever made, and howsoever slight its success, may claim to be received with courtesy, and to be criticised with forbearance.

If we enquire what facts are known which help to furnish an answer to Sir Thomas Watson's question, several subjects require investigation:—

I. In what way is the action of drugs to be discovered?
II. What is the action of drugs?
III. How is the action of each drug to be distinguished from that of all others?
IV. What is the kind of action of drugs?
V. What is the action of small doses?
VI. Is there a law for the dose?

PART II.

The first question has been answered in the preceding Essay; the second is now taken up:—

[illegible] a Paper, (in 'The Practitioner' for May, 1871,) [illegible] begins with this sentence:—

It is undeniably true that the present state of therapeutics is one of chaotic confusion. Probably at no time in the history of medicine have there been greater differences of opinion in regard to the healing power of drugs than exist in [illegible].

The unbecoming and unfair part which the authorities of our colleges, and indeed the great bulk of our profession, are [illegible] towards the small body of men who are diligently and [illegible], though with all human infirmities, labouring to [illegible] something more substantial upon these ruins, and to bring some order out of this chaotic confusion, and the [illegible] usefulness of the results of these labours, will be [illegible] and acknowledged by another generation. (1872.)

WHAT IS THE ACTION OF DRUGS?

How difficult it is to find an answer to this question may be gathered from the fact that a multitude of intelligent and educated men have been diligently engaged, for two thousand four hundred years, in searching for it without success. After all these generations have come and passed away, the head of the present one exclaims, "We want to learn distinctly and clearly what is the action of drugs."

The difficulty will be diminished if we first enquire, What is there about the subject which is not knowable, which we cannot learn? Our faculties being finite, our knowledge must have limits. After ascertaining this, we may, with more hopefulness, ask, What is there we can, and ought to know?

Before we come to the question directly proposed, What is the action of drugs? the present state of the enquiry renders it necessary to ask another question, physiologically speaking,

What is Life?

This word, more frequently used, perhaps, than any other, passes in ordinary conversation and reading without question. Every one attaches to it an idea, more or less vague, of his own; and this is sufficient for the common intercourse of men. But knowledge can make no progress so long as words are used with vague meanings. Knowledge has to do with things; and unless words distinctly express things, instead of teaching, they only conceal ignorance. There have been many attempts to explain and define the meaning of the word *life*.

It would occupy me too long to state, even in the briefest manner, the efforts of the ancients on this subject; many summaries of them are contained in the works of modern writers.

The philosophers and physicians of the seventeenth century, beginning with Van Helmont and Sylvi were excited and charmed by the birth of chemistry; and it is not surprising that living bodies were transformed into brewing vats and alembics, living phenomena into fermentations and distillings, and *life* meant *chemical affinity.*

In the eighteenth century all this was changed by Borelli, Baglivi, and Boerhaave, and mechanics and mathematics sat upon the throne from which chemistry had been driven. Living bodies became hydraulic machines; arithmetical calculations and algebraic equations filled the pages of books on medicine, living phenomena were the working of the pump, and *life* meant the laws of *mechanics.*

In the Croonian Lecture, delivered before the Royal Society in 1788, Dr. George Fordyce endeavoured to prove that life is an *attraction* similar to the attraction of gravitation. He says:—

"If two simple particles of matter, not farther distant from one another than the sun is from the earth, were both at perfect rest, these two particles would instantly begin to move towards each other, if no other particles of matter whatever existed. . . . Motions produced in this way I call original motions; other motions are communicated motions. . . . It happens frequently that the motions in the animal body are increased without any alteration of external applications to it, as the increase of the circulation. This motion must, therefore, be original and not communicated."[1]

So the contraction of a muscle is an original motion, [illegible] by the attraction of its particles drawing them nearer to each other. This attraction operates at a distance, like the attraction of gravitation, without immediate means of communication; it is the "*at-traction*," and that is the meaning of the word.

Others have endeavoured to identify vital phenomena with [illegible] operations, and so to understand *life* to [illegible].

Towards the end of the eighteenth century it was [illegible] that neither chemistry, nor mechanics, nor the other forces acting upon inorganic matter, were adequate to the task assigned them; and vigorous efforts were made by Stahl, Hoffmann, and others, to personify a *vital principle*, and to make this the meaning of life.

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[1] 'Phil. Trans.' abridged, vol. xvi, page 362.

Three different kinds of vital principles became rival competitors for pre-eminence. One was an immaterial or spiritual principle; another was neither spirit nor matter, but an inconceivable something between the two; a third was material, but subtle and refined.

Stahl supposed that the soul of man governs the whole economy of his body; he even thought that all motion requires the aid of a spiritual motive agency; and with him *life* meant the *rational and immaterial soul.*

Hoffmann, his colleague in the same university, refuted Stahl, and maintained that "the principal of life which animates a man is of a medium nature between the soul and the body." He called it *ether*, thought it was present everywhere (was it a "mode of motion" in the ether?), and with him this was the meaning of *life.*

Fleming (in Holland) and many others have imagined "vital spirits" or a "nervous fluid" absolutely material. It was said to be an exhalation from the blood, and that it circulated through the nerves, which were imaginary cylinders. With these physicians the *nervous fluid* was the meaning of *life.*

Sir William Lawrence ranks John Hunter among these. He says: "Mr. Hunter has a good, substantial sort of living principle; he seems to have no taste for immaterial agents, or for subtle matters. His *materia vitæ* is something tangible."[1] This is a mistake. John Hunter's notions of the vital principle are generally given in negatives. For example—"Life is not action."[2] This is said with reference to his well-known experiments with eggs. "Life is not organisation: they are two different things." Again: "The living principle in itself is not in the least mechanical; neither does it arise from, nor is it in the least connected with any mechanical principle." In the same manner he denies that it is in any sense chemical. Again he says: "Animal matter may be in two states: in one it is endowed with the living principle; in the other it is deprived of it. From this it appears that the principle called *life* cannot arise from the peculiar modification of matter (in organised bodies), because the same modification exists when this principal is no more." On the positive side Hunter says little more than this: "Animal matter is endowed with a principle called, in common language, life. This principle is, perhaps, conceived of with more difficulty than any other in nature, which arises from it being more complex in its effects than any other." And once more he says: "It may be thought necessary I should give a definition of what I call the living principle. So far, then, as I have used the term, I mean to express that principle which preserves the body from dissolution with or without action, and is the cause of all its actions." The experiments which proved to him that the blood (as well as solids) possesses this living principle are well known.

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[1] 'Lectures on Physiology' by W. Lawrence, F.R.S. 1872, page 73.

[2] 'Lectures on the Principles of Surgery.' The works of John Hunter, F.R.S., 1835, vol. 1, page 224.

Another line of thought and research has also been followed with no better result as to its primary object, but which has led to the discovery of some very useful facts. These investigations have entwined themselves round the word "irritability." This word was first used by Francis Glisson, Professor in the University of Oxford, in the middle of the 17th century. He recognised in the living solid tissues a force which he regarded as a sufficient cause of all the phenomena of life, and he called it "irritability." His views were not supported by experiments, nor was living irritability distinguished from dead elasticity till about a hundred years later. Then Haller published the results of his indefatigable labours on this subject, and plainly proved as facts the irritability of living muscles, and the sensibility of living nerves. These investigations of Haller laid the foundation of a useful physiology—that is, a physiology of facts. But the inveterate tendency to speculate soon showed itself again, and the word "irritability" and its synonym "excitability" became, in the imagination of John Brown, the meaning of *life.*

This view has been adopted by Dr. Fletcher, of Edinburgh—a teacher who ranks high in the estimation of some of our contemporaries. He says :—

"It was not till the time of John Brown—the vagabond and despised, but talented John Brown—that both humoralism and autocrateiaism (the doctrine of Stahl) were entirely exploded, and that the true influence of irritability or excitability, as he called it, was pointed out. As life has been shown to consist of *certain phenomena* resulting from the action of *certain powers* upon a *certain susceptibility*, the balance of which constituted health, so a loss of this balance was shown for the first time to constitute disease." "'Health and disease,' says John Brown, 'are the same state, depending on the same cause—that is, excitement, varying only in degree:' a sentence which should be indelibly impressed on the minds of pathologists." "Brown was wrong in considering his excitability as imparted to every man in a certain proportion at birth, and not rather continually renewed; he was wrong in making it in every part of the body of the same nature, and not everywhere different; and, above all, he was wrong in allowing his doctrine concerning asthenic diseases, including most cases of inflammation and fever, to lead to the most pernicious employment of general stimuli to the neglect of blood-letting in practice." Dr. Fletcher concludes thus: "It has been sufficiently shown that every organ of the body has a peculiar kind of *irritability*, adapting it to be acted upon by certain stimuli more remarkably than by others; and that it is owing to this peculiar susceptibility in certain organs of certain impressions, that particular exciting causes, *e.g.* contagions, however applied, produce always particular diseases; and precisely the same *explanation* must be given of the more or less specific action of all medicines."[1]

I beg leave to remark upon this explanation that it explains nothing at all. It is simply a manner, and not a good one, of stating a fact; not a good one, because in addition to stating the fact, it professes to explain it, which it does not.

Early in the present century the inadequacy of all former meanings of the word life emboldened some to deny its existence altogether as a *cause* of living actions. They asserted that life was not a play of chemical affinities; that it was not a mechanical arrangement; that to imagine a vital principle of any kind was gratuitous and unnecessary; that irritability was only a property and not a principle; for that life was nothing more than the sum of the phenomena of living beings, or that it was the effect or *result of organisation*, and this was the only meaning to be attached to the word. Thus, according to Bichat, life is "the assemblage of functions which resist death." According to Lawrence, "The primary or elementary animal structures are endued with vital properties;" and life is "the result of the mutual actions and reactions of all parts." Though with remarkable inconsistency he acknowledges, in another place, that "this language does not explain how the thing takes place; it is merely a mode of stating the fact. To say that irritability is a property of living muscular fibres, is merely equivalent to the assertion that such fibres have the power of contraction. What, then, is the cause of irritability? I do not know, and cannot conjecture." So, because he does not know the cause of living actions, and cannot conjecture what it is, he thinks himself entitled to deny its existence.

But neither has negation given contentment and satisfaction. And now we are busily returning to the various agencies in nature of which we know anything at all, or of which we know nothing. These are summed up in one word *Force*, which is said to be distinct from matter, "though only conceivable as acting upon it." This force "comes from the sun," and is *motion*, "one and indestructible." "It acts upon matter, calls its properties into exercise, and the result is in every instance regulated by the nature of these properties."[1]

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[1] 'Elements of General Pathology,' by John Fletcher, M.D., 1842, pp. 46, 478.

From this inconceivable force or motion it follows that "*life* is a mode of *motion*;"[2] and this is the true meaning of the word. This seems to me the most feeble of all the inadequate meanings which have been attached to a word of so much dignity and value.

The hypothesis at present accepted as explaining the essence of such agencies as light, heat, electricity, magnetism, and chemical affinity, is that they are all various forms of motion, and that they are mutually convertible into each other. The latest physiological notion of life is that it is another form of these motions; derived from them, and returning into them again. This mode of motion is supposed to be one in which "all ordinary chemical affinities are suspended."[2] This again is supposed to be occasioned by the rapidity of its changes, so that ordinary chemical compounds have not time to be formed. This latter supposition is not only unnecessary, if the hypothesis of correlation is carried out, but is inconsistent with it. When light becomes heat, the motion of light, and of course the phenomena of light, according to the hypothesis, are extinguished; so if chemical affinity becomes life, the operations of chemical affinity must cease.

Thus the circle of hypotheses is completed. At first every action in living bodies was a chemical one, and life was chemical affinity. Having passed through every phase which the imagination has been able to depict, life ends in a mode of motion, without any chemistry at all — "all ordinary chemical affinities being suspended."

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[1] 'On the Relation of Therapeutics to Modern Physiology,' by Dr. HENRY R. MADDEN. An Address delivered at Oxford, Sept. 27, 1871.—'Monthly Hom. Review,' Oct. 1871.

[2] Op. cit.

But where, it may be asked, are the proofs that molecular motions can *originate* sensibility in nerves, or contractility in muscles? Until satisfactory evidence is given that these motions are the *cause* of sensation and of contraction, and of other living actions, the assertion that "life is motion" is not proven. Even if it be granted that these molecular motions do form part of the condition of living bodies, this is no more an admission that these motions are *life*, than that the chemical changes which take place in that condition are a proof that chemical affinity is life.

For that ordinary chemical operations are continually going on in living bodies is manifest. Witness the combination of oxygen and carbon in the lungs during respiration; and the decomposition of common salt in the digestion of every meal; when its chlorine takes hydrogen to form hydrochloric acid for the gastric juice, and its sodium unites with oxygen to form soda for the bile.

The statement that life is a correlative of chemical affinity, in other words, that the mode of motion called chemical affinity is changed, in organic matter, into another mode of motion called life, is an hypothesis towards the proof of which no facts, either of observation or experiment, have been adduced. And as the *onus probandi* rests with those who make the assertion, others are justified in withholding their assent until such proofs can be given. It is a departure from true science to say that "the inexplicable of to-day will, by the discoveries of to-morrow, be rendered perfectly explicable."[1]

"Life is motion." These appear to me vain words, which fall as far short of the truth as they fall below the dignity of the subject. Another generation will look back upon this physical definition of life, as we now look back upon the chemical ferments of the 17th century, and upon the mathematical calculations of the 18th.

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[1] 'A Critique on Dr. Beale's Theory of Life,' by James Ross, M.D. 'The Practitioner,' M [illegible]851.

But justice will not have been done to the meanings put upon "life" and "living" unless notice is taken of Dr. Lionel Beale's persevering labours with the microscope, and the views put forward by him. His own books and beautiful drawings must be referred to for details; the results are thus expressed by him:—

"Every tissue may be divided anatomically into *elementary parts.* Each elementary part consists of *living matter* or *bioplasm,* and the *lifeless formed matter* (cell-wall, envelope, tissue, intercellular substance, periplastic matter), produced at the moment of the death of the particles of the first."[1]

This *bioplasm* or *germinal matter* is pulpy, translucent, colourless, homogeneous, without visible structure; it forms all structures; and every structure (cell-wall, tissue, &c.), when thus formed, is considered by Dr. Beale as no longer living.

The life of this living, structureless matter, which he calls bioplasm, is something having no relation to mechanical or chemical forces. He believes it to be a distinct power. He is therefore at issue with Professors Owen, Tyndall, and Huxley, Sir William Gull, and others, who look upon life as a force correlated with, or converted from heat, chemical affinity, &c.

When Dr. Beale says of the physical hypothesis of life, "It *may be true* that chemistry ceases in our living tissues under that form, to 'appear under some higher correlative;' but it has not been proved, nor has any step been made towards proof." I think his position is impregnable. Until the connection of vital with physical or non-organic forces can be proved by experiment, the hypothesis of their identity is an assertion which ought not to be accepted.

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[1] 'Life Theories,' 1871, page 42.

I admire very much the labours of Dr. Beale, but he will forgive me the remark that when he calls the structureless part *living*, and the part having structure *dead*, it appears to me that his line of separation between the living and the dead is drawn in the wrong place. To him now belongs the burden of proof, and having no facts nor experiments, he falls into the same error as the physicists with whom he has been contending. He asks,

"Is it not incorrect to speak of the action of a nerve or muscle, as being due to *vital* energy, seeing that the energy in question *may be* simply physical and chemical, although it is manifested in the tissues of a living being?"

This question may be answered in his own words: "Those who argue concerning the *possibility* of life being a correlate of ordinary force, should bear in mind that nothing can result from the mere assertion that *vital* force *may be* another form or mode of heat, or motion, unless facts and arguments can be advanced in support of the supposed possibility."[1]

Dr. Beale would be quite safe if he called the two constituents of the elementary parts of a living organ the *constructive* and the *constructed* (or gave them some such names), admitting that both are *living*. His objection to this is, that he cannot find any definite line of separation between living and dead parts, except the one he has drawn. Under these circumstances I think it would be better to say that we do not know where the line should be drawn.

It is quite true that there are many arrangements of parts in man's living body which are mechanical, *e.g.*, in the structure of joints; in the action of muscles; and in the strength of bones. The circulation of the blood may also in part be considered as a hydraulic process. The structure of the eye and the ear are wonderfully adapted to the laws of light and sound.

It is equally true that a crowd of chemical operations are being carried on every moment both among the solids and liquids of the human body, *e.g.*, in the stomach during digestion; in the liver and alimentary canal; in the kidneys; and, indeed, in every organ of the body. Chemical affinities are not suspended, but are in exercise, as mechanical powers are in exercise; and just as they are in inanimate bodies. The results are different, because the circumstances are different in which these chemical affinities have to play their part.

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[1] 'The Mystery of Life,' 1871, page 62.

In the same manner the other agents known as light, heat, gravitation, electricity, &c., are not suspended, but are in existence, and perform their functions in organised and living—as in inorganised and dead—bodies.

The mistake lies, not in asserting the operation of any or of all these forces, but in *hasty generalizations* respecting them. It lies in supposing that because there is some chemistry, therefore life itself is chemical; or because there are mechanical contrivances and processes, therefore life is nothing but the laws of mechanics; or because heat, and light, and electricity are recognised as acting a part in living bodies, and are hypothetically treated as motions mutually convertible into each other, therefore life is derived from these; and is itself nothing but a mode of motion.

All these forces, or, if it is preferred to call them so, modes of motion, are operative in living bodies; and are themselves subject to the same laws which govern them in lifeless bodies; but not one of them need be life—no, nor all of them together.

The many medical writers referred to in this sketch, with two or three exceptions, have fallen into this error of drawing hasty conclusions. The prominent exceptions are Haller and John Hunter. These able and industrious men sought truth in facts; and were generally content with the consciousness that their knowledge was bounded by these facts. But so difficult is it to be content with this, that even Haller was seduced from it when he was led, by his opposition to the then prevalent notion that the nerves are cords in a state of tension, and that sensations are transmitted by a vibratory motion of these cords, to adopt the opposite notion of a nervous fluid, or vital spirits, circulating through the nerves. Haller was drawn into this error by the statement of Lewenhoeck, that he could demonstrate by the microscope the tubular structure of the nerves. Hunter, as I have already observed, contents himself with negative statements. I think he nowhere says what life is.

There is another complication which requires to be cleared up, for it has added much to the difficulty of this investigation. It is a dispute about the words "forces" and "properties," as if they were things and not words.

Gravity, electricity, chemical affinity, elasticity, living action, and other agents in nature, have long been called "forces." Some of them are still called forces, but others are called "properties;" and it is thought to be an advance in knowledge to say that elasticity, for instance, is not a force, but a property; and to deny the existence of the "vital force;" and to call the thing so named, "vital properties."

I am sorry to see that Dr. Madden has been carried away by the popular current. In his recent Address at Oxford, he says: "There is absolutely no proof whatever of the existence of such a thing as *vital force;* neither is there the slightest need for the conception of such a force. Living matter differs from dead material in its *properties;* and these alone are sufficient to explain all the phenomena; hence we must be careful to speak and think of *vital properties*, and to abjure altogether the false and misleading term of *vital force*."

Alas! we are deceiving ourselves greatly if we think this is progress in knowledge. To formulate such distinctions as these, so far from being a step in advancing to light, is to carry back a difficult subject into greater obscurity. It is very needful that such words as "force" and "property" should be well defined, and that they should be kept to their proper use; but this mode of distinguishing them creates confusion only. If gravity be the force which moves a clock, elasticity is equally the force which moves a watch, and so of the others. Or, if it be preferred to call elasticity a property, then gravity is a property, and more emphatically so, for, while elasticity is found in a few bodies only, gravity is met with in all.

Whether, therefore, we call *life* "vitality," "vital principle," or "vital force," as we have hitherto done, or speak of it as "irritability," "irritable matter," "germinal matter," or "vital properties;" whether we exalt it into "metabolic complexity," or simplify it into a "mode of motion," the important thing for us to remember is this, that we only vary our manner of expression, while our knowledge, or rather our ignorance, remains where it was.

In like manner, if we deny the existence of the *vis medicatrix naturæ*, as Dr. Madden does in the same Address, "there cannot exist," he says, "any true resistance to disease, or any real *vis medicatrix naturæ*," and substitute for these words, as he does, "the *tendency* of germinal matter to resort to its original mode of motion," we have not increased our knowledge, we have only altered our language.

Such alterations of language, with the discussions they engender, the time they waste, and the attention they divert from worthier and more useful objects of study, are deeply to be deplored. "Words, when established to a certain point, become part of the social mind; its powers and very existence depend upon the adoption of conventional symbols; and were these suddenly departed from, or varied according to individual apprehensions, the acquisition and transmission of knowledge would cease."[1]

There may be in living bodies a "mode of motion," but life is surely something more, and something else.

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[1] Grove, 'Correlation of Physical Forces,' p. 91, 2nd Ed.

What that something is we do not know, and let us not try to conjecture. I think it is not knowable. Let us be content to speak of the unknown thing as *life;* and of the bodies which are blessed with it, as *living* bodies.

Living nerves have sensibility, and living muscles have irritability; but neither sensibility nor irritability are life. To say that nerves are sensitive, and that muscles contract on the application of a stimulus, is to state facts, not to explain what it is which makes nerves feel and muscles contract. We do not know what this is; and when we call it *life*, we shall, I think, do well to believe that it is an unknown and unknowable thing. It may be reverently owned that "such knowledge is too wonderful for us; it is too high, we cannot attain to it."

We are now better prepared to consider the question,

What is the Action of Drugs?

Let us enquire first what there is about the action of drugs which we *cannot* know. This will help us to learn more distinctly and clearly what we *can* and ought to know.

There are three things about the action of drugs which, in my opinion, we cannot know:—

The nature or essence of the action, *what* it is.

The *modus operandi*, or its manner of acting.

The reason *why* it acts in one manner and not in another.

This ignorance need not disquiet us. It is not greater than our ignorance in respect to the action of all natural forces. And this ignorance of the nature, manner, and reason of their action, does not prevent us making very practical use of them every day.

For instance:—

We do not know what *gravity* is, nor how it acts, nor why in the way it does, but we make *clocks*, and put them in motion; that is, we obtain a mechanical effect by using the force of gravity.

We are equally ignorant of *elasticity*, but we make *watches*, and obtain a similar motion or mechanical effect by using the force of elasticity.

The mechanical movement of the ship's *compass* according to which the ship itself is steered, is obtained by using the unknown force of *magnetism*.

In like manner long and heavy *trains* are rapidly conveyed upon railways by availing ourselves of two forces; of *heat*, which gives the motion, and of *friction*, which gives the progression.

And to obtain the mechanical motion of the *needle* in the *telegraph*, we employ three forces, *chemical affinity*, *electricity*, and *magnetism*, of the essence of which we know nothing.

In the same manner a hundred chemical processes are daily carried on, and most important effects regularly obtained, by making use of the force of *chemical affinity*.

We see that all these and other forces of nature are intimately connected with each other; that they are apparently correlated or mutually convertible into each other. At present they are spoken of as so many *modes of motion;* but it must be remembered that this is not a fact, but a speculation or hypothesis.

We know the organization of living bodies so far as our senses reveal this to us; but I think we cannot know that vital force, that "breath of life," which must be added to it to make them living bodies. We cannot know its essence, nor how it acts, nor why it acts as it does.

When we give a drug to a living body, whether in health or in disease, some observable effects are produced by its action on particular parts of the body. We know that these effects are produced through the medium of the *life* existing in the parts where the action takes place, for there is no action in dead parts. In the words of John Hunter: "The living principle is susceptible of impressions which may be productive of action either diseased or healthy, *i.e.*, productive of restoration; each of these may be brought about by medicines." Of the nature or essence of this action, of its manner of acting, and why it acts in one manner and not in another, we know nothing. This knowledge we do not and, I believe, cannot know.

What is the knowledge which we can and ought to know? and how are we learn it?

It is agreed that the material universe consists of matter and forces (or motion, as the latter is now sometimes called). All bodies are composed of matter, and are subject to various forces. There being more bodies than one, and these of different sizes, and the forces which act upon them varying in greatness or power, two additional subjects for consideration arise, namely, numbers and magnitudes.

We have five bodily senses by which we become acquainted with these bodies, and with the forces which act upon them; and we have reason, by which we compare and contrast the ideas with which we are furnished by our senses; and by which we calculate numbers and measure magnitudes.

It is found that numbers and magnitudes may be dealt with by the understanding or reason alone, without reference to any particular bodies or forces. When we reason correctly about these, we can come to conclusions respecting them to which the understanding is compelled to assent as necessarily true, because the contrary would be absurd and impossible. These sciences of numbers and magnitudes are called mathematics; the conclusions are processes of reasoning, and they are called *demonstrations*, a title to which no other conclusions can put in a claim in the same sense.

But the word is often used—and used with propriety—in another sense; and the reference then is not to our mind or reason, but to our five bodily senses. Bodies and their forces produce impressions on these senses; and whatever is plainly presented to any of them, so that it is impossible to doubt the impression, or the thing which produced it, brings the mind to a conclusion which may be called a *demonstration*—it is an observed fact. Such demonstrations (or showings), are quite different from the former, or mathematical ones; but, like them, they compel the assent of the mind. They are a testimony of the bodily senses which refuses to be denied, or even to be questioned.

When we reason about natural phenomena beyond these limits, that is, when the question is not one of number or magnitudes, and when it is not one which can be resolved by an appeal to any of our senses, then, whatever conclusions we may arrive at, we must never forget that these conclusions are nothing more than hypotheses, guesses, conjectures, or speculations, which by no form of words can claim to be called demonstrations in either of the senses in which alone that word should be used.

Further, it is an unimpeachable truth that these hypotheses, how charming soever they may appear, add absolutely nothing to our knowledge. Nor do the hard names which are given, sometimes for brevity to express facts, sometimes for beauty to adorn hypotheses, add, in any sense or degree, to our real knowledge. They sometimes cloak or hide our ignorance; they sometimes impose upon the ignorance of others; they are sometimes useful, and sometimes mischievous; but, whatever else they may be, they are never additions to our knowledge of things.

We can observe the organization of living bodies. We can experiment upon it with food, stimulants, and drugs. The knowledge thus acquired through our senses is the knowledge of observed facts. It is of great value. The connecting link, that which makes the organization *living*, that which makes such experiments possible, is a *tertium quid* of which we know nothing.

Of the subtle agencies of nature we can observe many phenomena, and experiment upon them, as, for example, those of light, heat, electricity, &c.; and these also are observed facts. Even the undulatory theory of light, beautiful and perfect as it is, as well as the notion that the other forces are also different forms of motion, are hypotheses and not facts.

The thing to be desired for those whose duties are to heal the sick—duties so practical and responsible—is, that we leave off the pursuit of objects apparently unattainable, and that we devote our energies to the acquirement of real—and therefore useful—knowledge. The powers of our senses and of our minds—the powers of observation and reason—are given us to acquire knowledge and experience; and if we pass these boundaries, and roam about as our imagination tempts us, we mistake our duty, exceed our powers, and lose ourselves in darkness.

Of the action of drugs in its essence, what it is, how it acts, and why, I forbear to enquire further. To the *effects* or *results* of this action I would give, and ask others to give, the most patient and persevering attention. These effects are observable by our senses; and they concern us, as physicians, in practical matters of the highest importance.

We may now try to learn what is the action of drugs; it being understood that only the perceptible effects of this action are under contemplation. These we can and ought to know. If the expressions, "vital force" or "drug action" are at any time used, they mean nothing more than that unknown power by or through which the drug given acts upon the organ which appropriates it. In the same manner we speak of "gravity" as the unknown power or force by which the pendulum moves the clock; and "elasticity" as the unknown power by which the spring moves the watch.

Yet again, before we can proceed, two additional thoughts force themselves upon our attention, and demand expression. How very much more intricate and delicate is the machinery of the human body, upon which our drugs are intended to act, than that of the clock or the watch! And how indefinitely removed we still are from that precision with which we can fix the length of the pendulum in the clock, and the strength of the spring in the watch!

With these necessary explanations we again ask

What is the Action of Drugs?

Having reminded ourselves that science itself has its *limits*, beyond which it is in vain for us to labour to pass; that there are things which it is impossible for us to know; and having left these unknowable things behind; we start, with a cheerful heart and with a steady step, to pursue the path of observation which lies open before us. If many others will do the same, Sir Thomas Watson's desire will be accomplished, and we shall, ere long, learn distinctly and clearly what is the action of drugs.

We ought to know, because it is possible for us to learn 1. What the observable effects are, in health and in disease, which each drug produces. 2. Where, that is, in what parts or organs of the body these effects are produced. 3. How they are varied by varying doses, or by other influences.

No doubt the task is a laborious one, and attended with difficulties; but labour is man's duty, and difficulties are things to be overcome, and ought to stimulate to exertion. When this attainable knowledge has been attained, then we shall understand what is the action of drugs; for "men may be said to understand any subject when they agree that they see all that can be seen of it at present by man."[1]

1. *The action of drugs is injurious in health.*

I have fomerly observed that drugs may be classed among the causes of disease. It is true that the most useful things—things not only conducive to health, but necessary to life—may, by their abuse, become causes of disease. People may be made ill by too much food, or by too much air; by too much clothing, or by too much bed; by too much exercise, or by too much rest. Drugs are not causes of disease in this sense. They rank with malaria and contagions; and, taken at all in health, they are causes of disorder and disease. They differ from malaria and contagions by being remedies in sickness.

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[1] Dr. John Hey's 'Lectures.' Vol. 1, page 6.

The injurious action of drugs in health is proved or demonstrated by three different or independent series of facts:—

Many persons are killed by drugs, given or taken intentionally or accidently, as *poisons*. It has been stated that about 250 deaths are caused in this manner every year in England alone. Socrates was so put to death by hemlock.

In addition to these sudden and violent deaths caused by drugs used as poisons, an incredible number of persons have their health injured and their lives shortened, by the excessive use of drugs as *medicines*. The habit of taking medicines is so inveterate that many persons take them even when they are in health. They cannot do this without injury.

A third series of facts has been accumulating annually for 75 years. These are *provings*, or experiments, voluntarily made for the express purpose of learning the injurious action of each drug when taken in health. These experiments are still in progress, and must be continued for a long time to come.

Two former essays have already been devoted to this subject. One on 'Provings in Health,' the other on 'The Physiological Action of Medicines.'[1]

The injurious action of drugs is, in part, characterised as follows:—

1. As acute and chronic. The former implies a

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[1] Essays VII and XVI.

quick and violent action, which manifests itself, as other causes of disease do, in a severe illness. Some drugs are much more capable of acting in this manner than others. In all the dose or quantity is an essential element. This dose may be very much less with some drugs than with others. Aconite and arsenic, opium and corrosive mercury, hemlock and copper, are examples of drugs which, in comparatively small doses, can excite sudden and violent suffering even to death.

Effects called chronic are slow and insidious in their origin and progress; but they are often profound and long-lasting. The preparations of lime, silica, carbon, and sulphur are examples of this class of drugs.

John Hunter expressed his view of this twofold, or acute and chronic action, thus:—

"Medicines have visible and invisible effects. The visible may be divided into two, the constitutional and the local; the local are vomiting, purging, &c.; as an instance of the constitutional, the effects of mercury may be mentioned. Their invisible effects are commonly the specific effects, for we find that their curative action does not always depend upon their visible effects; and, indeed, their specific effects are often greater when they have no visible effects, as mercury in syphilis, bark in intermittents; but others cure by their visible effects. Medicines given slowly and continued long will produce effects very different from those produced on their sudden application; and thus it is that even stimulants and irritants may produce weakness."[1]

It may be well to offer a few remarks upon this extract. The effects called "constitutional" are really local. Is not the action of mercury (the example given) on the salivary glands, the throat, the liver, the bones, and the skin? And are not these *localities*, or separate parts of the body? Again, "others cure by their visible effect." It is now known that these effects are generally unnecessary to the cure. And I venture to add that it would be well if *all* the effects which any drug produces were called *specific*, that is belonging to, or forming part of its character.

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[1] 'Lectures on Surgery,' chapter xvi.

2. As action and re-action. Hahnemann has called these primary and secondary, and sometimes alternate actions. All these terms are intended to mean that the action of many drugs is at first in one direction, and afterwards in an opposite direction. For example, cold is often followed by heat; purging by constipation; excitement by depression; increase of secretion by deficiency of secretion.

Both are sometimes the direct effect of the drug; sometimes the re-action seems to be an effort of life resisting the action of the drug; sometimes it looks more like exhaustion or weakness.

In the provings of drugs these opposite effects are very conspicuous, and ought to be of great therapeutic value. As they occur in the provings as arranged by Hahnemann, and by those who have followed his example, they often become, in practice, a serious difficulty. This indicates a great defect in Hahnemann's arrangement.

3. As primary and secondary, or principal and subordinate. The term primary or principal here means the action upon those organs or parts of the body, where the strongest effects of the drugs are produced: and secondary or subordinate, the action upon those parts less powerfully affected. These terms are also applicable to the differences in the kind of action, and to the symptoms which indicate them. These subjects occupy much of the Essay on the 'Action of Drugs,"[1] read in 1870 at Birmingham.

It is worthy of notice that the secondary or subordinate action is often upon parts which have little apparent connection with the parts principally acted upon, *e.g.*, chamomilla acts upon the stomach, the liver, the nerves, and the lymphatic glands. Rhus acts in typhus, and upon the ligaments and the spleen.

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[1] Essay XXI.

Bovista upon the heart and skin. Spegelia upon the heart and eyes.

Perhaps these facts may be accounted for, in part by difference of dose; in part by the action being upon particular nerves, as in the case of ipecacuanha, which acts upon the stomach and the lungs, probably through the pneumo-gastric nerve; in part by the kind of action, as with aconite and belladonna, which act upon the arteries everywhere, and as with lycopodium, which acts upon the suppurative process in any organ; but probably there is also some undiscovered cause.

4. As functional and structural. The action of some drugs is comparatively weak, and seldom goes beyond the derangement of the functions of the organ, that is, it causes *disorder* only. The action of other drugs can be limited to the production of disorders only by making the doses sufficiently small. Rhubarb is an example of the first class, arsenic of the second.

But the action of many drugs may be carried much beyond the production of functional disorder. The structure of the organs acted upon may be altered, or even destroyed. This is *disease* in its strictest sense, though this word is often used with more latitude, and as synonymous with any kind of illness.

Such are some of the characteristic effects of drugs taken in health. Others will be noticed as the Essay proceeds. It has been sufficiently proved that the action of drugs is injurious in health.

Historical accuracy ought to be dear to every one, and with this feeling I cannot forbear halting for a few moments here to correct a misrepresentation of the history of this subject.

Dr. Pereira, speaking of the physiological effects of medicines, has this paragraph:—

"Formerly no distinction was made between the effects which medicines produce in health, and those which they give rise to in disease; and the terms, *virtues*, *properties*, *faculties*, and *powers* were applied to both classes of effects. But Bichat, and subsequently Barbier and Schwilgué, pointed out the propriety of considering them separately."[1]

It is well known that to Hahnemann is due the credit of carrying out the proving of drugs in health to an extent which eclipses the labours of all others; and these experiments were begun by Hahnemann in or before 1790, when Bichat was a boy.

That Pereira was well acquainted with Hahnemann's labours is proved from the following sentence and reference, which occur only four pages before the quotation I have just given. He says:—

"The homœopathists assert, and with truth, that the study of the effects of medicines in the *healthy state* is the only way of ascertaining the *pure* or *pathogenetic* effect of medicines—since, when we administer our remedies to invalids, 'the symptoms of the natural disease then existing, mingling with those which the medicinal agents are capable of producing, the latter can rarely be distinguished with any clearness or precision.'—(Hahnemann's 'Organon,' translated by C. H. Devrient, p. 190)."[2]

It is not to be understood that experiments in health were first suggested by Hahnemann. The truth on this point was stated in the Essay on 'Provings in health'[3] (first published in 1854), in which the words of Haller are quoted. Nor were they first begun to be made by Hahnemann, as is also shown in that Essay. What Hahnemann did was this: he undertook and accomplished them on a much more extended scale, and persevered with them in a much more indefatigable manner, than any other; and did not cease till he had attracted to them the attention of the world.

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[1] 'Materia Medica,' Vol. I. p. 93. 4th Ed.

[2] Ibid., p. 89.

[3] Essay VII.

2. *The action of drugs is curative in disease.*

This is a result of experience very contrary to what *a priori* reasoning would have led us to expect. A thing which does harm in health would be expected, without experience, to do still more harm in sickness. The fact which we are now considering is an example of the old maxim, "that will happen which is least likely." It is one of many which should suggest care in observing, and should check presumption in reasoning, on matters in which we are inexperienced.

The fact that drugs are curative in disease has been established by abundant experiment. It has been acknowledged and acted upon without doubt of its truth, for thousands of years; and that notwithstanding all the mischief which has been done by over-drugging, and over-dosing, under the plea of active and energetic treatment.

These Essays contain many illustrations of its truth, in the various cases which, from time to time, have been given in them. Others might be added now, but they would make this Essay too long.

The fact is thus expressed by John Hunter:—

"There are many substances which, when applied to a healthy state of the body, may injure as poisons; yet when applied to an unhealthy state, they will counteract that state, and keep up health as long as they have the power of irritation. The healthy action being a *tertium quid* of the unhealthy and the poisonous. Each disease has its own peculiar specific." "There is no disease but what has a peculiar mode of cure of its own, and every particular part a particular mode of curing its own diseases."[1]

It seems to me more dignified and becoming, both to the human mind and to true science, thus simply to state the fact, with an acknowledgment of our ignorance of the manner of its production, than to attempt to hide our ignorance by clothing the statement in metaphors which imply an understanding and an explanation of the cause or manner of the action.

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[1] 'Lectures on Surgery,' ch. xxiii.

The definition of this medicinal action which has been given by Dr. Drysdale is of the metaphorical kind. He defines a specific to be "a remedy which cures by the *absorption* of its whole physiological into its therapeutic action." What is the meaning of the word "absorption" in this sentence? To "absorb" literally means to suck up; a sponge absorbs water, but a therapeutic action is not a sponge. A piece of black cloth "absorbs" the rays of light, but a therapeutic action is not a piece of black cloth. A substance can absorb, but an action cannot be said to absorb, except in a metaphorical sense; and the use of a metaphor, in the definition of a physical act, teaches nothing. As Dr. Drysdale's definition can have only a metaphorical, and not a literal meaning, we fail to learn anything from it.

It is surely better to say that each drug has an action in health which produces disorder or disease of certain parts of the body; and, when given in a different dose, a curative action in disorder or disease of the same parts. This is to make a plain statement of fact. It is intelligible, and of great practical usefulness. When the statement is put into Dr. Drysdale's words, it becomes less intelligible, and not more useful. I think it is better to be content with the confession of ignorance, the *tertium quid* of John Hunter.

Our expression of fact, however, must include all the elements which belong to it, which are necessary to make it true, and it must not exceed our knowledge. In the "Address" of Dr. Madden, already referred to, he states, "as the invaluable discovery of Hahnemann":—

"That a drug invariably produces, in the diseased organism, a series of changes precisely opposite to those which it produces in health."

I venture to say that this aphorism is not true, because it is not the whole truth. It requires a qualifying element to be added to it, namely, the drug being given in different doses. Moreover, it expresses more than we know, for we do not know that the two "series of changes" are "precisely opposite" to each other.

The characteristics of the curative action of drugs which may be noticed here, are such as these:—

1. It is commonly most efficacious when it is least visible. This is strangely at variance with the notions and practices which have prevailed for a long period of time. We have seen, however, that it was partially acknowledged by John Hunter, and it may now be safely stated as a fact.

2. In disorder (or functional disturbance), the effect of the appropriate drug in suitable doses, is a perfect cure. In disease (or structural change), the cure is less and less possible as the diseased structure advances towards destruction.

3. If the medicine is not discontinued when its beneficial effects have been obtained, it begins to act injuriously. This, also, is very contrary to long established thought and practice; but it may be proved by a careful observation of daily experience.

4. In acute disease the curative effect is often marvellously prompt and conspicuous. In chronic disease it is generally slow and little perceptible, though ultimately not less successful. The rapidity with which croup and cholera are sometimes cured may be mentioned as examples of the former. Mesenteric disease in children, and long-standing dyspepsia in adults are instances of the latter.

5. Drugs are said sometimes to cure by what has been described as their direct action, and sometimes by their re-action, but these different effects probably belong more to the action of different doses of the same drug.

6. In sickness what is called the primary or principal action will take place in the deranged organ, notwithstanding that, in health, the action on that organ may have been a secondary or subordinate one; *e.g.* the principal action of *belladonna* in health is upon the brain, eyes, and throat; that is upon the *arterial* circulation in these organs; its curative action may be seen in similar arterial excitement (inflammation) in almost any organ.

I cannot leave this part of the subject without again expressing my regret on account of the harm still done by what is considered necessarily active treatment. To explain my meaning I will briefly mention two cases which came to my knowledge not long ago.

A respectable farmer was suffering from an obstruction of the bowels. He was treated in the usual way, with strong purgatives, for some days, at the end of which diarrhœa came on, and he immediately died.

A lady, in good general health, had two or three restless nights from rheumatism in the shoulder. For this an opiate was prescribed. The draught was taken at bed-time; the pain was relieved, and sleep obtained. She died in the morning, without awaking from this sleep.

These are not solitary cases. Taking away blood has been considered an essential part of this active treatment. This is at present laid aside in England, but it is continued in other countries, and it may be revived in this. It will not be amiss, therefore, to preserve the following

"Reuter's Telegrams.
"Turin, June 3rd, 1861.

"His physicians declare Count Cavour's illness to be a *very mild form* of typhus fever, without any alarming symptoms.

"He was bled this evening for the *sixth* time."

"Turin, June 6th.

"Count Cavour died this morning at seven o'clock."

The civilised world concluded that Count Cavour did not die of the fever, but of the bleedings.

No doubt in all these cases, and in others like them, physicians act conscientiously, and believe that they are doing the best that can be done for their patients. The treatment at the time is orthodox. The intentions aimed at are often accomplished. In the first of the two cases mentioned above, the obstruction was overcome. In the second, relief from pain, and sleep in the place of restlessness, were obtained. It is true that in one case it was the relaxation of death; and in the other the stupor of apoplexy. But it is by no means certain that these reflections would occur to the physicians; they certainly did not to the friends of the sufferers. That which has been said of surgeons, and of some of their operations, might be said of such physicians: "The operation was most successfully performed, and the patient died two hours after!"

3. *The action of drugs is consecutive.*

There is a "following in train" of effects, which occupies time. It may be that only one dose of a drug has been taken, or there may have been a repetition of doses; in either case, when action takes place, there is a combination and succession of symptoms sufficient to characterise at lease one morbid condition, just as there is in the action of other causes of disease.

This consecutiveness is of two kinds.

There may be a series of derangements in the health of an organ, producing symptoms which indicate a definite pathological state, to which a name can be given; in other words, a specific disease, or something very like it, may be caused by the drug. For instance, a few doses of rhus are sufficient, in some constitutions, to develope a condition of ill-health resembling an attack of typhus fever. The change in the blood is followed by the combination and succession of symptoms which characterise that disease. In a former Essay[1] a proving of rhus of my own is given, which is an example of this.

Or, there may be a succession in the organs affected, *e.g.*, in poisoning by lead there will sometimes be, first, spasmodic pains in the bowels, or colic; then, dizziness and other symptoms of disturbance of the brain; then, local paralysis, as of the hand.

Mercury generally acts first on the salivary glands, then on the liver, then on the throat, afterwards on the skin, and finally on the bones.

Dr. Roget has placed on record[2] a remarkable case of successive morbid conditions caused by arsenic. An epitome of it is given in the Essay on 'Provings in Health.' In this case there is not only the combination and succession needed to make up a distinct morbid state, or nameable disease, but there is a succession of different morbid states, representing so many different diseases. All these followed one another after only one dose of the poison.

These combined and successive series of symptoms, in all diseases arising from a single cause, have been recognised from very early ages. More than sixteen hundred years ago, it was remarked by Aretæus that

"When inflammation occurs in the membrane called *succingens* (the pleura), and there is heat, with cough, and parti-coloured sputa, the affection is named *pleurisy*. But all these symptoms must harmonise and conspire together, as all springing from one cause; for such of them as occur separately from different causes, even if they all occur together, are not called pleurisy."[3]

In the emphatic language of Lord Bacon, "it is order, pursuit, sequence, which is mighty in nature; which, although it require more exact knowledge in prescribing, and more precise obedience in observing, yet is recompensed with the magnitude of effects."[4]

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[1] Essay VII, 'Provings in Health.'

[2] 'Medico-Chirurgical Transactions' for 1811.

[3] "—χρὴ δὲ ταῦτα ἀλλήλοισι—" &c. Περὶ Πλευρίτίδος.

[4] 'Advancement of Learning.' Bacon's works by Basil Montagu, vol. ii, page 168.

The importance of studying the "order" or combination of symptoms, is great indeed. It may be illustrated by the action of aconite and rhus. Both these drugs produce a feverish pulse; but the combination of symptoms which is found grouped around each feverish pulse, is so entirely different, that to give aconite or rhus indiscriminately, would be a grave mistake. To the pulse of aconite is attached simple or inflammatory fever only; while to that of rhus, quite as characteristically, belongs typhus fever.

The value of observing the "pursuit, sequence," or succession of symptoms is not less. The following may be given as examples:—

Belladonna and ipecacuanha cause, in common with a large number of drugs, headache and sickness; but, as indicating their proper selection as remedies, with this very urgent difference, the headache from belladonna precedes the vomiting, while that from ipecacuanha follows it. The sympathy between the brain and the stomach, as shown in these instances, is not greater than that between the brain and the heart. I have seen the taking of an ounce of laudanum followed immediately by fright, and soon afterwards by violent palpitation of the heart; whereas some doses of digitalis will cause first excessive action of the heart, which shall be followed by anxiety and fear. They thus point to themselves as remedies for very different conditions having the same symptoms.

Nosology, or the doctrine of the classification and naming of diseases, is founded upon this fact—the harmony and succession of conditions and symptoms produced by the common causes of disease — and could not exist without it. The action of drugs is similar.

This combination and succession of symptoms, and of pathological conditions, cannot be neglected with safety. They ought to be noticed and registered in the account of the provings of each drug upon the healthy. They indicate a characteristic feature in the action of each drug, and point out the drug as a specific remedy for corresponding conditions of diseases. It is obvious from this consideration that cases of proving should be recorded exactly in the same manner as it has been customary to describe cases of disease.

It is a great defect in Hahnemann's Materia Medica that, from the peculiar arrangement adopted by him, the opportunity of recording this combination and succession, and consequently the benefits to be derived from the record, are lost.

Time is an important element, not only in the diagnosis of diseases, but in the study of the action of drugs.

4. *The action of drugs is local or partial.*

So much has been said upon this point in former Essays, that it can scarcely be entered upon again without incurring blame for needless repetitions. Yet it is too important to be passed over without giving it some further careful thought.

The action of drugs upon the living body is peculiar and wonderful. Food, unless bad, or taken in excess, nourishes the body, supports life, and preserves health; air, unless impure, purifies and invigorates the blood, and so maintains life and health; exercise, unless immoderate, gives strength to the body, and fits it for labour. But drugs, taken in health in quantities sufficient to produce any effect at all, produce disease; and when taken in disease in other quantities, restore health.

The action of drugs, therefore, viewed in this light, is singular. It it also singular when looked at in another light; the action of each drug is partial or local. Some parts of the body (solid or liquid) are affected, and others are not, or only in a much slighter degree.

We do not know any drug which has a universal and equally powerful action upon all parts of the body. If such a drug could be found, and we were able, by regulating its dose, to direct at will its action upon any specified diseased part, we should, perhaps, need no other medicine.

We have no such general action in any drug. If any one thinks that we have, he has only to name the drug.

Each drug has its own locality for action—hence the great variety of medicines in use. Each drug has also its own kind of action in that locality.

For details upon this local action, I must refer to the Essay, 'How is the action of each drug to be distinguished from that of all others?'[1]

Drugs, though apparently singular in this local action, have associates in their singularity. All the ordinary causes of disease act like them in a partial or local manner, and each cause acts in a manner peculiar to itself.

Having now for a long time advocated that it is best, in a practical sense, to view the action of diseases and of medicines as local rather than general in their seat, it seems right to state distinctly my object in doing so. It is for the sake of increased clearness and accuracy. As long as the "general" notion prevails, there will be vagueness and want of precision, both in diagnosis and in treatment.

That this view is true as regards diseases, and embraces all the facts of the case, needs no further proof than a careful consideration of the following extract from Sir Thomas Watson's admirable "Introductory Lecture:"—

"Diseases themselves, in the mass, are sometimes distinguished, according as they are *general* or *local*. This distinction is convenient, though it may not be very exact or logical.

"General diseases are those in which the whole body appears to partake in the morbid process going on. Strictly speaking, they are diseases in which *some one system* of the body, distributed through every part of it, is primarily or principally affected: for example, diseases in which the blood, which visits and circulates through every part and organ, is in an unnatural or unhealthy condition, or carries with it some noxious material; or again, in which the nervous system, throughout the whole or the largest part of its extent, is deranged.

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[1] Essay XXI.

"Local diseases, on the other hand, are those in which certain definite parts of the body are alone concerned, and which do not extend beyond, or much beyond, those parts, but leave the remaining parts, and the system at large, healthy both in texture and in function.

"There are, indeed, diseases which, occupying a definite portion only of the body, do nevertheless produce manifest and serious disturbance in the functions of various other parts, and (it may perhaps be said), of the whole system. Inflammation of a small portion of the frame may give rise to much secondary fever; yet here, also, we properly speak of the disease as being local, the secondary general disorder resulting from the local and primary, following it in point of time, and subsiding upon its cessation."[1]

For the practical purposes of the physician, the blood and the nerves are "definite parts of the body"; and it will promote Sir Thomas Watson's object (which ought to be the object of every physician), and help us "to learn distinctly and clearly what is the action of drugs," to view all diseases in this light.

The same reasoning applies with equal force to the effects produced by drugs, as a little consideration will show.

It is true, then, to say that diseases are local; and it is of practical value to look upon them in this light. It tends to make diagnosis more accurate. It is true to say that the effects of drugs are local; and it is of no less practical value to view them in this light also. It tends to make treatment more careful. Now it may be humbly hoped that whatever tends to make diagnosis more accurate, and treatment more careful, will contribute towards making the result more successful, and patient and physician more happy.

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[1] 'Lectures on the Principles and Practice of Physic,' by Sir Thomas Watson, Bart., M.D., F.R.S., &c. Fifth edition, 1871, p. 9.

5. *The action of drugs affects the same parts in disease as in health.*

The truth of this can be demonstrated by the evidence of both schools of medicine, but in opposite ways.

By the testimony of the old school.

It has been the practice from "old time" to treat diseases very much on the principle of revulsion or counter-irritation. To carry this practice out, a certain amount of knowledge of the local action of drugs is indispensable, in order that the diseased parts may be avoided, and that the sound parts may be acted upon; so that an artificial irritation or disorder may be set up, and the revulsion desired may be brought about.

This practice proves that the parts or organs of the body which are not acted on in health, are not acted on in disease. The physician, knowing the local action of the drug he intends to prescribe—knowing that is, the parts where its effects take place, and the parts which are left undisturbed, can give it with confidence when the parts where it does not act are unsound, because we know that the drug will not affect them.

Every day's practice furnishes illustrations of this truth, *e.g.*, when purgatives are given for diseases of the head, there is no fear lest they should have an injurious action on the diseased parts.

Pereira says:—

"*Colocynth*, in diseases of the brain. In apoplexy, or a tendency thereto, in paralysis, insanity, violent headache, &c., *colocynth* is sometimes employed with good effect on the principle of revulsion or counter-irritation."[1]

On the contrary, this fear is very present when a drug is known to have an action where the disease exists.

Pereira says again:—

"*Opium* is undoubtedly the most important and valuable remedy of the whole Materia Medica. . .

"In diseases of the brain and spinal cord. In some cerebro-spinal diseases great benefit arises from the use of *opium;* while in other cases injury only can result from its employment. The latter effect is to be expected in inflammation of the brain, and in apoplectic cases. In other words, in those cerebral maladies obviously connected with, or dependent on, an excited condition of the vascular system of the brain, *opium* acts injuriously."[2]

Sometimes the action which is feared is guarded against by the regulation of the dose, *e.g.*, *arsenic* is known to inflame the stomach, and to be a remedy for some diseases of the skin. When *arsenic*, therefore, is prescribed for the skin, the physician is careful to make the dose too small to act injuriously upon the stomach. Tartar-emetic, in the same manner, acts upon the skin, the bowels, the stomach, and the lungs; and the dose can commonly be selected which shall act where it is designed to do, and shall avoid the rest.

But "modern medicine" will not bind itself to any principle; and now it is often the intention to act upon a diseased part. When this is done the practice approaches the principle of the new school; and drugs can always be chosen which are known to act upon the desired part, whether in disease or in health.

This is the experience of the old school.

By the testimony of the new school.

This is still more decided; for the practitioner puts the fact to the test in every case he is called upon to treat. It is his express design to select such remedies as will not act upon the sound or healthy parts, but which will act upon the parts which the symptoms tell him are diseased. The provings of drugs in health declare which organs each drug avoids, and which it acts upon. And the results of this daily practice prove that the parts or organs of the body which are acted upon in health, are also acted upon (however different the kind of action), in disease.

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[1] 'The Elements of Materia Medica and Therapeutics,' by Jonathan Pereira, M.D., F.R.S., &c. Fourth edition, 1857, p. 215.

[2] Ibid., pp. 633, 636.

In full confidence of the truth of this general fact:—

Opium is given in threatened apoplexy.
Arsenic is given in gastritis.
Cantharides in inflammation of the bladder.
Phosphorus in pneumonia and enteritis.
Ipecacuanha in asthma, and in some cases of vomiting.
Bichromate of potash in ulceration of the cartilages of the nose. &c., &c.

This is the experience of the new school; and the conclusion seems irresistible that the action of drugs is upon the same parts in disease as in health.

How surprising, therefore, to meet with the following sentence in Dr. Madden's recent "Address":—

"A drug may be perfectly incapable of acting on a certain organ while it remains healthy, and yet be capable of modifying to a great extent any morbid changes which it may be undergoing!"

If this be so, the provings of drugs in health is of little use. The labour, the suffering, and the loss of time which they entail, are endured in vain. The sooner, in such case, the proving of drugs is abandoned, the better.

But this is distinctly shown, by the facts just referred to, not to be so. Therefore the proving of drugs is useful. Therefore the prescribing of drugs to act upon the diseased parts, and not upon the healthy ones, is possible, and may continue to succeed, as it has hitherto done.

I should not like to think what would become of homœopathy if Dr. Madden's statement were correct. Surely the sentence has been written inadvertently.

6. *The action is characteristic of each drug.*

Nothing more emphatically declares the infinite skill and almighty power of God than the wonderful combination of uniformity and variety which is exhibited in the works of creation and providence. How alike all men are, and yet how different! Every man has a face of his own, and a character of his own, by which he is readily distinguished from all other men. Shepherds tell us the same of a flock of sheep. We meet with illustrations on every side. There is the same uniformity and variety in a Materia Medica of drugs. They all possess certain features in common; and each has a character by which it may be distinguished and separated from the others.

The subject will occupy the next Essay.

This would seem to be the fitting place to offer some observations on the classification of drugs.

If we look back to see what has been done in order to discover the best arrangement of the resemblances and differences among drugs, we shall find three sets of writers earnestly engaged in the search.

We have the writers on poisons — toxicologists. The older of these adopted the plan of ranging the different articles under the heads of minerals, vegetables, and animals. It is evident that this classification threw no light upon them as poisonous substances; and, therefore, though useful to the naturalist, it rendered no assistance to the toxicologist.

Orfila was the first to depart from this method, and to endeavour to arrange them according to their manner of acting as poisons. He made four classes:— "Poisons irritans"; "Poisons narcotiques"; "Poisons narcotico-âcres"; et "Poisons septiques ou putréfians."[1]

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[1] 'Leçons de Medicine Legale,' par M. Orfila, Deuzième Ed. 1828. Tome III, pp. 14, 15.

Professor Christison rejected the fourth class with the remark that, "assuredly no substance can cause putrefaction in the living body."[1] He adopted the other three:—irritants, narcotics, and narcotic-acrids.

Dr. Alfred Taylor says:—

"Poisons may be divided into three classes, according to their mode of action on the system, namely, irritants, narcotics, and narcotico-irritants. This classification is a modification of that originally proposed by Orfila, and is almost universally adopted by toxicologists."[2]

But Professor Christison is very candid in admitting the insufficiency and great imperfection of this method of arranging and distinguishing poisons. He says:—

"The classification of poisons has hitherto defied the ingenuity of toxicologists. . . . It is evident that the only sound basis of arrangement is their action on the animal economy: for such a classification is the only one which can be useful in practice. Now, when we consider what has been said on their mode of action, or the symptoms produced in consequence of that action, it must at once be perceived that no system founded on either of these circumstances can be logically correct. It would be very desirable if their mode of action could be adopted as the basis of arrangement; but both reasoning and experience have proved this to be impracticable. . . .

"It would be even more fruitless to attempt an arrangement of poisons according to their medium of action; for no sure criterion is known, by which a poison, acting through direct transmission of an impulse along the nerves, can be distinguished from one that acts by entering the blood.

"Neither is the embarrassment of the toxicologist materially less, if he attempts to classify poisons according to the symptoms they induce in man. This is the principle now (4th Edition) generally followed; and which, in common with others, I shall pursue. But the reader will be at no loss to discover that the partitions which separate the classes are exceedingly slight; and that very many poisons might be arranged without impropriety in either of two classes.

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[1] 'A Treatise on Poisons,' by Robert Christison, M.D., F.R.S.E., &c. 4th Ed., 1845, pp. 110, 111.

[2] 'A Manual of Medical Jurisprudence,' by Alfred S. Taylor, F.R.S. 2nd Ed., 1846, p. 12.

"The preceding statements show the impossibility of founding a good system of arrangement on the only basis which can be acknowledged philosophical and practical; and consequently that, as the science of toxicology now stands, we must altogether despair of forming one that shall be even moderately satisfactory."[1]

We next turn to writers on the materia medica. These lead us to the same conclusion as that to which we have been brought by Professor Christison. No method is yet known to them by which the agreements and differences among drugs can be satisfactorily arranged; so that commonly, substances are put together alphabetically "without any regard to their affinities as natural objects, or their medicinal virtues."[2]

A summary of all the methods hitherto proposed may be found in the first volume of Pereira's "Materia Medica." He notices:—

"1. *Empirical arrangements.*

"These are independent of the nature of, and have no real relation or connection with, the substances to be arranged. An *alphabetical* order, since it is founded on names which are arbitrary, and have no relation to the bodies they are intended to designate, is of this kind. . . . It brings together substances of the most incongruous natures, and separates those which agree in most of their properties; and, from its want of order, it distracts the attention of the student; and is, therefore, totally unfitted for an elementary work." Pereira then speaks of

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[1] Christison, pp. 109, 110.

[2] A. T. Thompson, 'London Dispensatory,' 3rd Ed., 1822, p. 19.

"2. *Rational arrangements.*

"These have an actual relation with the bodies for which they are used, and are the classifications, properly so called. They are founded on the properties of the substances treated of; consequently are as numerous as there are classes of properties. Thus medicines may be arranged according to their—α. Sensible properties (colour, taste, smell). β. Natural-historical properties (external form and structure). γ. Chemical properties. δ. Physiological properties. ε. Therapeutical properties.

"Classifications founded on the colour, taste, and odour of plants, are necessarily very imperfect;" and "objectionable, dissimilar bodies are brought together, and similar ones separated.

"Classifications founded on the Natural-historical properties.

"I mean those made use of in natural history. . . . I have preferred this mode of arrangement principally on account of the great difficulties attending any other method, especially that founded on the physiological effects of medicines."

This is the method which, since the time of Orfila, has been rejected, as we have seen, by toxicologists, as rendering no assistance.

"Classifications founded on the chemical constituents.

"The difficulties attending the analysis of organised substances present a great obstacle to the formation of a chemical classification."

Moreover, if formed, it would not indicate the physiological or therapeutical properties of the substances it arranged.

"Classifications founded on the physiological effects of medicines.

"As the ultimate object of all our enquiries into the Materia Medica is to obtain a knowledge of the mode of operation of medicinal substances, it follows that the most desirable and useful, because the most practical, classification of these agents, would be that founded on the similarity of their effects. But so many difficulties exist in the way of producing such an arrangement . . . that it must be evident to every one who attentively studies the subject, that in the present state of our knowledge, no such classification can be satisfactorily effected.

"Classifications founded on therapeutical properties.

"The curative and remedial powers of medicines are not absolute and constant, but relative and conditional; so that we have no substance which, under every circumstance, is a remedy for a particular disease. This will explain why no modern author has attempted to classify remedies according to their therapeutical properties.

"Strictly speaking, there are no substances to which the term *specific* can be properly applied."[1]

There remain writers on medicine. It is well known how the older writers luxuriated in their ample classifications of medicine, as "Nervina: Corroborantia: Stomachica: Balsamica: Diuretica: Diaphoretica: Emetica: Cathartica: Hipnotica: Refrigerantia:" &c.

These have dwindled down until Dr. Billing sums them up under four heads—"Stimulants: Sedatives: Narcotics: and Tonics."[2] The enumeration of individual medicines belonging to each of these groups shows plainly how unsatisfactory it is. The dose is often sufficient to remove a drug from one class to its opposite. "A *stimulant* increases the action of the heart . . . and excites the sensorium to hilarity, if there be no latent disease there; but in too great a quantity it produces stupor." "A *sedative* is that which diminishes the action of the heart and other organs by repressing the nervous influence; for example, digitalis and green tea." That the kind of action of both these, whether stimulant or sedative, also depends upon the dose, is well known. "The *narcotic* principle in drugs is that which, by diminishing the sensibility of the nervous system, allays pain and procures sleep. Narcotics must be distinguished from stimulants on the one hand, and from sedatives on the other; and the distinction is the more necessary, because in nature the narcotic principle is generally combined with one or other of these." "Opium contains *stimulus* combined with narcotic." "Hyoscyamus contains the *sedative* combined with the narcotic," &c. "Tonics are substances which neither immediately nor sensibly call forth actions," &c. The substances mentioned are very diverse in their individual properties, and their "tonic" action is clearly dependent upon the disease for which they are given, and upon the dose. Mercury, arsenic, nitrate of silver, bark, colchicum, copper, mezereon, dulcamara, &c., have no natural tie of connection; an alphabetical arrangement would be as good a one. Dr. Billing himself says :—

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[1] Pereira, Vol. I, p. 137 et seq.

[2] 'First Principles of Medicine' by Archibald Billing, M.D. Third edition, page 73.

"As I set out with observing, it may be seen that tonics must always be considered in reference to disease: thus different substances which, considered physiologically, or in health, belong to opposite classes, become, in disease, tonic. Even narcotics frequently become most useful tonics"—hence *tonic* is merely another word for *curative.*

It follows, I think, from all these strong observations of eminent writers, that nothing satisfactory has yet been done in the way of arranging the resemblances and the differences of drugs, in a medical point of view.

It may seem presumptuous to say, in the face of all these confessions, that something may, nevertheless, be attempted which can give satisfaction. And, therefore, the method which organopathy suggests, and of which a summary will be given in the next Essay, ought to be offered with diffidence. It is desired so to offer it, and to put it on its trial, in the hands of unprejudiced and impartial physicians.

7. *The action of drugs differs with the dose.*

As I hope to be able to write Essays on the Dose, I will content myself at present with a few detached observations.

It is much to be regretted that, in introducing the infinitesimal division of drugs, fifty years ago, Hahnemann should have thrown the subject of doses into such great confusion; and this very much by his manner of doing it. He put his followers into a pillory where they have been compelled to stand ever since.

It is refreshing to see the courage with which Dr. Black has spoken, in the papers he has read in London and Oxford, in 1870 and 1871, upon the dogmatism Hahnemann has given way to in this manner.

Nevertheless, the subject of doses is one full of interest; and it admits of some things being said of it with a considerable degree of distinctness and certainty: *e.g.*,

1. The taking of different doses of drugs, both in health and disease, shows how the character of the action of each drug can be varied or extended.

2. In this way it becomes evident that the action of different doses of the same drug is sometimes upon different organs; often of a different kind; and occasionally in an opposite direction; and this occurs both in health and disease.

3. The opposition in the direction of the action of different doses is most clearly manifested, when a larger dose is given in health, and a smaller one in sickness.

4. The action of the smaller dose in disease is commonly curative, when the disease exists in the organs which are acted upon by the drug in health, and when the kind of disease for which it is given as a remedy is

similar to that which is producible by it when given as a poison.

5. Infinitesimal doses take their place among other causes of disease which are themselves infinitesimal, *e.g.*, the contagions of small-pox, scarlet fever, &c. We should have no knowledge of the existence of these contagions, but for their powerful action upon the living human body. At present we have no proof, besides that on the living body, of the *action* of infinitesimal quantities of drugs. The spectroscope has given us its testimony to the *existence* of some of them, which it has not yet given for contagions.

6. Hahnemann attempted to limit the use of the infinitesimal dose, so that the dilutions should not be carried beyond the 30th, for the reason that we must stop somewhere. This is an arbitrary rule, which must fail. And it has failed, for many practitioners have gone very much beyond it. Dr. Black is now attempting to persuade us, though only for the sake of experiment, not to go beyond the 3rd. This attempt must fail also. Men will not be bound by arbitrary rules.

It has been suggested in these Essays, that the only way by which the confusion and perplexity in which the subject of doses is now involved, can be removed, is *the proving of them in health.* This must be done in the same manner as drugs have been proved, but with more care and precision. Hahnemann's provings give us no information about the doses made use of in them. Some later provings by other experimenters do give us this information, and we can avail ourselves of it, but almost everything yet remains to be done.

For in the provings already made, in which the doses are given, no special attention has been paid to the *difference* in the action of different doses. The object has been to obtain the largest results as to the entire action of the drugs. These provings are, on this account, much less useful than might have been expected.

We want to learn, in addition to the entire action of each drug, the special action of each dose.

Here is employment for the genius of industry for more than one or two generations.

ESSAY XXI.

THE ACTION OF DRUGS.

(CONTINUED.)

"A man is not permitted without censure to follow his own thoughts in the search of truth, when they lead him ever so little out of the common road."

JOHN LOCKE.

ESSAY XXI.[1]

THE ACTION OF DRUGS.

(CONTINUED.)

"All created beings are not only different from each other in their classes, races, and kinds, but are also individually distinct."
JOHN CASPAR LAVATER.

PROFESSOR TYNDALL commenced a letter to the *Times*, a few months ago, with this remark: "*The theory of disease* was never discussed with more earnestness, or with greater precision, than at the present time." This is true of the old school of medicine. I hope it may be said with equal truth that, in the new school, the *theory of cure* is discussed with the same earnestness and with the same precision. The thing to be desired is, that each school would lay aside all exaggerated condemnation of the other, and that they should work in harmony together. Each school might render valuable help to the other.

There are many ways in which a patient may be assisted in his recovery from illness; but when we speak of the *cure of disease*, we commonly mean a cure effected, more or less, by the administration of drugs or medicines. A true theory of cure, therefore, cannot be propounded until a clear account has been given of the action of drugs.

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[1] First published in 1870. This Essay was written before the two preceding ones. It was read at a Congress in Birmingham in 1870.

What are *drugs?*

If we look at all material things which surround us, with reference to the life and health of man's body, they arrange themselves in three classes. One class constitutes *food*, and contains all substances which, when digested, form blood, and so nourish the body, and sustain its vital power. Another class consists of *stimulants*, which do not make blood, nor nourish, nor sustain, but which help in the use and concentration of the living power previously possessed. Another class is composed of a number of remarkable substances which are not food, nor diffusable stimulants, but which act injuriously in health, and curatively in disease—these are *drugs*. When taken in health they are often called *poisons;* when taken in illness they are commonly called *medicines*.

A few words about food and drugs. Drugs may be said to be the opposite of food. They cannot nourish nor support life. When taken in health they are injurious to it, and many of them have power to destroy life. But it is known, and apparently it has been known in all ages, that when in sickness they are opportunely taken, they have power to relieve pain, and often even to remove disease, and to restore health.

The difference, therefore, between food and drugs is very great. Food is required to make blood, to provide materials for the growth of the body, and for the repair of its daily waste. It must be taken daily, and in considerable quantities. Drugs are not needed in health, but in sickness; and then only in such small quantities as shall be found sufficient to alter morbid action in the direction of health.

That drugs, which are poisons to the healthy, are remedies to the sick, is a statement suggestive of many enquiries. An active imagination may speculate on the questions *why*, and *how*, to an indefinite extent, but probably with little profit. Medicine is a science of fact. It has been made the sport of speculation. To place it in its true position should be the aim of its students.

Facts are living verities, and he will be the best physician who has the largest acquaintance with facts in medicine, and the happiest tact in remembering them, as they are needed to guide him in the treatment of his patients.

And what is the *action* of drugs?

Sir Thomas Watson, the present head of the profession in England, lately said, in an address to the Clinical Society of London, "We want to learn distinctly and clearly, *what is the action of drugs.*"

To answer Sir Thomas Watson's question, these subjects require investigation:—

I. In what way is the action of drugs to be discovered?
II. What is the action of drugs?
III. How is the action of each drug to be distinguished from that of all others?
IV. What is the kind of action of drugs?
V. What is the action of small doses?
VI. Is there a law for the dose?

PART III.

The two first questions have been considered; our attention shall now be directed to the third:—

HOW IS THE ACTION OF EACH DRUG TO BE DISTINGUISHED FROM THAT OF ALL OTHERS?

First, in health.

The primary fact, forming the basis of the investigation, is this—all drugs have a partiality in their action; a preference to some parts of the body above others.

The next fact—this preference varies with each drug; and sometimes even with different quantities of the same drug. In other words, an affinity exists between different parts of the body and different drugs, or doses of drugs, which affinity produces actions which are more or less characteristic in each case.

This affinity, together with its effects, lies at the bottom of the use of drugs as medicines; and of every theory which has been advanced in explanation of that use. All schools of medicine avail themselves of it alike. It gives rise to some of the most surprising and interesting phenomena in nature.

How wonderful that a few drops of the juice of one plant should, when taken by a healthy person, produce a morbid affection of the brain, and a few drops of another, a disordered condition of the lungs; that a third plant should act upon the stomach; that a fourth should attack the heart; a fifth, the liver; a sixth, the muscles; a seventh, the joints; and so on, through every part of the body.

In this manner *a first line of separation* between one drug and another is drawn distinctly.

But several drugs are found which act primarily and powerfully upon the same part or organ of the body. In this case a distinguishing feature lies in their *manner* of acting. Generally this is very different, sometimes it is directly opposite.

This is a *second line of separation.*

Again, drugs which select the same parts for their primary action, act also upon other parts or organs in a secondary or subordinate manner. And this subordinate action turns out, for the different drugs, to be upon different organs. Hence we have, for those drugs whose primary action is on the same part, but whose subordinate action is on different parts, a *third line of separation.* This forms an easy method of distinguishing them from each other.

A careful observation of these three differences—the organs acted upon primarily or most powerfully—the kind of action—and the organs acted upon secondarily or less powerfully, will be found to be sufficient to distinguish one drug from another.

Time will not permit me to give examples, but they will be familiar to you.

Let us turn for a moment to look at the diseases for which we use these drugs, and at the various causes which produce them, and we shall see three facts.

The common causes of disease act with a partiality or power of selection. The primary or most powerful action being on some particular parts or organs of the body.

This action is special in its kind or direction.

Other organs are acted upon in a secondary, subordinate, or less powerful manner.

Here are two parallel sets of phenomena. Drugs, in fact, act upon the healthy body very much as other causes of disease are seen to act; and they differ from each other as other causes differ. They are to be numbered among the causes of disorder or disease in healthy persons.[1]

Such, I venture to think, is the answer to the question, How is the action of each drug to be distinguished from that of all others when taken in *health?*

We will next consider the question with reference to medicines, or drugs taken in *sickness*, and we shall observe a similar series of facts.

Drugs taken in sickness show a partiality in their action; their primary effects appearing in some parts of the body, and not in others. They differ from each other in *the parts selected* for this primary or most powerful action. In this manner they are distinguished from each other.

They differ also in their *kind of action.* It may be remarked generally, that large doses act as medicines in the *same* direction as that in which they act as poisons, and small doses in an *opposite* direction.

They differ from each other in their *subordinate* or less powerful action.

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[1] It is an obvious inference from this fact that, except for scientific experiment, healthy persons should never take medicines.

Here is a series of phenomena parallel with that produced by drugs taken in health. They are parallel but not identical phenomena.

The link which connects the proving of, or experimenting with drugs in health, with the use of them as remedies in disease, is this fact, that—

Drugs select *the same parts* in disease that they do in health, both for their primary and for their secondary or subordinate actions.

This, I hope, is a satisfactory answer to the question in the second aspect. How is the action of each drug to be distinguished from that of all others, when taken in *sickness.*

Suffer me now to offer three remarks :—

The fact of selection itself opens the door to prescribe drugs as medicines with two opposite intentions. They may be given to act upon the healthy, or comparatively healthy parts, and so as to avoid the diseased parts. Or, they may be given to act upon the diseased organs, and so as to leave the healthy ones untouched.

The fact that the direction of the action of medicines is sometimes similar, and sometimes opposite to that of poisons, according to the dose given, renders it possible to use them antipathically or homœopathically.

While the fact that the actions of a drug are on the same parts, whether given in health or in disease, greatly facilitates the choice of the remedies for the individual patient.

This is the outline of the subject; but before it is exhausted, other parts of it will require to be settled.

One of these is the peculiarity in the character of each drug, which lies in the *quantity* or dose in which its various actions are produced. Unhappily, this part of the subject is yet involved in much perplexity.[1]

Another point is an enquiry into the *limits* within which the *curative* action of each drug is confined. Certainly the power of drugs over disease is limited. This fact seems to have had little attention bestowed upon it, having been forgotten by physicians as well as by patients and their friends.

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[1] This perplexity is removed to some extent, in the following Essays.

Again, a bye-path in this search after the knowledge of drugs would lead us to the observation of some curious facts relative to the mode of *applying* drugs (as well as to the preparing of them for application), in order to obtain their action. Some drugs act when applied to the skin, as *arnica*, *rhus*, *ranunculus*, *cantharides;* others when applied to the mucous membranes, but not when put upon the skin, as *aconite*, *bryony*, *pulsatilla;* others require to be introduced by a wound into the circulation, as vaccine, and some other animal poisons. *Belladonna*, if rubbed round the orbit, will dilate the pupil; *Calabar bean*, similarly applied, will contract it.[1]

It may be asserted that the primary actions of drugs is upon the "vital principle."

Hahnemann was a vitalist, following in this the school of Van Helmont and Barthez. He announces his adoption of these views at the commencement of his *Organon of Medicine:*—

"In the healthy condition of man the spiritual vital force, the dynamis that animates the material body rules with unbounded sway, and retains all the parts of the organism in admirable, harmonious, vital operation, with respect to both sensations and functions, so that our in-dwelling reason-gifted mind can employ this living, healthy machine for the higher purpose of our existence." § ix.

"When a person falls ill, it is only this spiritual, self-acting vital force, everywhere present in his organism, that is primarily deranged by the dynamic influence upon it of a morbific agent inimical to life; it is only the vital force, deranged to such an abnormal state, that can furnish the organism with its disagreeable sensations, and incline it to the irregular functions which we call disease." § xi.

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[1] I have applied a considerable number of powerful drugs in the same manner, without being able to add to these two another which produced either dilatation or contraction of the pupil.

Medicines cure by also possessing a spiritual power:—

"This spiritual power, capable of altering man's health, (and hence of curing diseases), which lies hid in the inner nature of medicines, is not, of itself, discoverable by us in any way by a mere effort of reason; it is only by experience of the phenomena it displays." § xx.

This is imaginary. It is acknowledged to be so by Barthez himself. These are his words:—

"We can only give negative assertions, doubts, and conjecture on the nature of the vital principle in man."

Such speculation appears to me unpractical and useless; if I may venture to say so, worse than useless; because it is covering ignorance with the clothing of knowledge.

Let me not be misunderstood. I do not doubt that, in addition to an immaterial and immortal soul, man has an animal life in common with the brute creation. But I doubt the utility of speculations on this animal life in a medical sense; and especially when a similar kind of spirit is ascribed to drugs. We know too little of this animal life for a profitable discussion of it at the bedside of the sick.

It may be asserted that the primary action of drugs is molecular, and that we ought to start from molecules or atoms, and their movements.

I believe that molecules, and molecular movements, are real existences, and that infinitesimal doses, and their action, belong to this category; though we cannot follow them with the eye, even aided by the microscope. This subject is entertained in the Essay on 'the Small Dose,' written eighteen years ago. It has been well handled, just now, by Professor Tyndall, in his lecture before the British Association, at Liverpool, on the 16th of this month.[1] "There is," he says, "a world of matter and of motion to which the microscope has no passport, and in which it can offer no aid." "The first marshalling of the atoms, on which all subsequent action depends, baffles a keener power than that of the microscope."

Possibly the spectroscope may be an instrument better fitted to tell us something about these atoms and their movements. But, up to the present time, we know little or nothing about them, much less can we distinguish one from another. We cannot, therefore, penetrate thus far into the action of drugs.

When we descend into more visible and tangible regions, it may be asserted that the primary action of drugs is on the blood and its heterogeneous particles, upon which each drug produces its particular change. I believe it is; but here also, except to a very limited extent, both our microscopes and our chemistry fail us. Notwithstanding the wonderful minuteness and delicacy to which both these methods of research have attained, they are not yet able to compete with the subtlety of these changes. There is sufficient encouragement both to the microscopist and to the chemist to carry on the enquiry; but it cannot yet be made the starting point to the therapeutist in his explanation of the action of drugs.

Once more; it may be asserted that all drugs act primarily upon the nervous system, each drug selecting particular nerves; *e.g.*, ipecacuanha the vagus; platinum the trigeminus; colocynth the sciatic. This assertion may be true. I heartily wish our present provings of drugs were complete enough to put us in a position to investigate it thoroughly, and to master its details. This would be a vast stride in advance in the pathogenesis and therapeutic use of drugs. And further, we are indebted to Sir Charles Bell for teaching us that all nerves have special powers, some being nerves of sensation, others nerves of motion; and that when an organ performs several functions, it receives nerves from several sources. To be perfect in our method of prescribing drugs, on the theory of nerve action, we should know how to act upon each of these several kinds of nerves. But our present knowledge in this direction is far too limited to be practically useful.

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[1] September 1870.

Finally; we are shut up to the conclusion that, if we would advance a step beyond the mere mechanical enumeration of symptoms, and prescribing for them —a method which satisfies some, but which is very far from satisfying all—we must look to the *seat* of these symptoms, the part of the body whence they proceed. We must look, in other words, to the pathology of our cases, and try to discover the organs morbidly affected, and the kind of affection. And seeing that, with our present means, we cannot go beyond this in the examination of drugs, we must be content to concentrate our attention upon the organs themselves, as supplied with nerves and blood, and to learn the action upon these organs of the several drugs we use.

And, assuredly, to determine as correctly as is possible, the *locality* and the *nature* of the action of every drug; and also the *limits* of its *curative* action, are problems of the highest importance.

With these limitations, how is the action of each drug to be distinguished from that of all others?

The answer, as we have seen, involves the observation of phenomena of various kinds. We have to learn

1. The *organs*, (solid and liquid), of the body upon which each drug acts *primarily*.
2. The *parts* of the organs in which this action occurs.
3. The *kind* of action, or the result produced.
4. The *organs* which are affected *subordinately*.
5. The *quantities* or doses required.
6. The *limits* of the therapeutic action.

As an example of the practical carrying out of these views, so far as regards the first four of these series of phenomena, I beg to invite your attention to the diagram before you. It is necessarily brief and imperfect, and probably, in some respects, erroneous; but I hope it will convey an idea of what I think is required to be done for every organ, and for every drug.

LOCAL ACTION OF DRUGS.

BRAIN.	ITS PARTS.	KIND OF ACTION.	SUBORDINATE ACTION.
Belladonna.	Arteries.	Inflammation.	Throat, eyes, &c.
Opium.	Veins.	Congestion.	Heart, nerves.
Hellebore.	Absorbents.	Effusion.	Serous membranes.
Hyoscyamus.	Cerebral substance.	Visions.	Eyes, heart.
Cannabis.	Do.	Convulsions.	Urinary organs.
Narcissus.	Do.	Pain, insensibility.	Stomach, uterus.
MIND.[1]			
Anacardium.	Memory.	Failure of memory.	Nerves of the five senses.
Aurum.	Imagination.	Dread of evil.	Reproductive organs.
Oleander.	Thought.	Inability to think.	Motor nerves.
Cotyledon.	Emotions.	Suppressed emotions.	Heart, lungs.
Ignatia.	Do.	Sorrow.	Rectum, spleen.
Mercurialis.	Do.	Excitement.	Mucous membranes.
HEART.			
Aconite.	Arteries, muscle.	Excitement, depression.	Arteries, larynx.
Digitalis.	Left side.	Depression, excitement.	Kidneys.
Bovista.	Walls.	Hypertrophy.	Skin, uterus.
Spigelia.	Valves.	Valvular disease.	Eyes, ears.
Lachesis.	?	Chronic disease.	Throat, bowels.
Bromine.	?	Do.	Larynx, eyes.
BLOOD.			
Ferrum.	Red globules.	Red globules increased.	Heart, arteries.
Rhus.	?	Typhus.	Joints, muscles.
Lycopodium.	?	Pus.	Liver, intestines.
Titanium.	?	Albumen.	Eyes.
Uranium.	?	Sugar.	Kidneys.
Petroleum.	?	Mucus.	Do., intestines.

Before concluding, suffer me to offer a few remarks on the different forms of antagonism, with respect to the use of medicines, which exist between the

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[1] So far as this is influenced by the brain.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] [redacted] [illegible]

[illegible]

[illegible]

[illegible] [redacted]

[illegible] [redacted]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

e.g. give *belladonna* for a *dilated* pupil, *opium* for a *contracted* one.

The third opposition. It is now said, in effect:—

Prescribe homœopathically, but give large doses, and discover a pathological explanation.

This looks like an unwilling testimony to those who say:—

Prescribe homœopathically, and give small doses; acknowledge the obligation, and bear the odium.

I will detain you with but one further remark; it will bring us back to the sentence with which we commenced.

Dr. Gull, in a discourse "*On clinical observation in relation to medicine in modern times*," delivered at a meeting of the British Medical Association, at Oxford, in 1868, and published last year, in the "Medicine of Modern Times," gives an elaborate review of pathology and diagnosis — the *theory of disease*. He then sums up what he has to say on therapeutics —the *theory of cure*— in words of serious import —I might almost say, of melancholy confession— as showing how little, in what is vainly called "orthodox medicine," the conclusion of the whole matter amounts to.

"The surgeon," says Dr. Gull, "is contented to place a wounded part under the conditions of physical and physiological rest, and, after attention to hygienic conditions, to abide the result. This, no doubt, expresses the largest part of *our* treatment of common acute disease. We now *know that we cannot directly control* the morbid processes in pneumonia, pleurisy, or pericarditis; we *know further*, that the means formerly considered essential to the cure of these diseases, tested by better clinical observations, *were either useless or pernicious*."

Now the new school, with a consciousness of the solemn responsibility of the statement, and denying vain-glorious assumption, deems it its duty to say —we do know that we can, when we have a fair opportunity, often "directly control the morbid processes in pneumonia, pleurisy, and pericarditis," and many other forms of acute, as well as of chronic disease.

Thus encouraged, let us persevere in the daily study of the local action of drugs, not forgetting any longer the limits of their curative action. How much over-drugging—how much useless and even hurtful medication—how much unavailing effort and bitter disappointment will such knowledge put an end to!

ESSAY XXII.

THE ACTION OF DRUGS.

(CONTINUED.)

. . . "The patient leaders of the Institute
Taught them by *Facts*."

TENNYSON.

ANALYSIS.

The knowledge of the right use of drugs is yet to be sought for.

1. Homœopathy in the general.
2. Homœopathy in the individual.
3. Organopathy.
4. The kind of action of drugs.
5. The action of small doses.
6. A law for the dose.

Conclusion.

ESSAY XXII.[1]

THE ACTION OF DRUGS.

(CONTINUED.)

"I wish you to get into the habit of contemplating the whole science of medicine under its simplest and plainest form."
SIR THOMAS WATSON.

PART IV.

IN this Essay it is attempted to find answers to the remaining questions:—

IV. What is the kind of action of drugs?
V. What is the action of small doses?
VI. Is there a law for the dose?

A KNOWLEDGE of the action of drugs is certainly one part of the science of medicine. Let us try to follow the advice of Sir Thomas Watson, and seek this knowledge in "its simplest and plainest form."

The use of drugs as remedies in disease is so ancient, that the history of its origin has faded away from the human memory: it is a subject which, on account of this antiquity, claims to be approached with respect. The use of such medicines is co-extensive with the families of mankind: the subject deserves, on this account, to be handled with care. Above all, the use of drugs as remedies is needed only during human suffering, and in man's last agony on earth: it demands, therefore, to be discussed with seriousness.

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[1] First published in 1873. Being the Presidental Address delivered at the Congress of British Members of the Medical Profession practising Homœopathy, held at Leamington, September 11th, 1873.

Let us, to-day, approach this subject with respect; let us handle it with care, and discuss it with seriousness; and let us hope that a blessing from God will rest upon our endeavours.

The first thought which arises in the mind is a question which cannot be asked without surprise: how is it that, after so many centuries of the use of drugs, the knowledge of the right manner of using them is yet to be sought for? What is the answer?

With reference to all knowledge men are ignorant from two conditions: in one of these knowledge is placed; in the other, men themselves. The condition in which knowledge is placed is, that much of it is shrouded in darkness. God is light, and there is no darkness in Him; but he has seen fit to surround much knowledge with a darkness which is impenetrable by the eyes of men. These are hidden things whether corporeal, intellectual, or spiritual, which belong to God.

The condition in which men are placed is, that there are things upon which the light shines—whether the light of the material sun, the light of reason, or the light of revelation—but we do not see them because our eyes are blinded. This knowledge is attainable, but we are ignorant of it. These things belong to man, and he ought to know them. What his eyes can see, if he will use them aright, he may and ought to learn. Truth, then, is like the sun; God may hide it from us by placing clouds before its face; or it may shine brightly, and we may not be able to see it because we are blind.

Now, in the department of medicine there is much which is hidden in darkness, and which we cannot know; but there is also much upon which the light shines, and it is our blindness alone which prevents us seeing it.

Let us try to use our eyes both of body and mind, for the power of seeing is strengthened by use. We have to exercise our bodily senses in observing what is presented to them; and we have to engage our minds in remembering, thinking about, and comparing the resemblances and contrasting the differences of the things we have observed.

Before we can so use our eyes much dust has to be removed. A great blinder of the eyes is prejudice, another is self-interest, another is indolence, another is pride, another is self-conceit; all these throw dust into the eyes, and prevent us seeing things upon which the light shines. Let us wipe away this dust. These are evil conditions which beset us all, like so many cuttle-fishes spirting out their inky juices, and preventing the mind seeing and feeding upon the objects provided for its nourishment and growth. Let us labour to get rid of these evil conditions, always remembering that it is a great mistake to try rather to penetrate into God's darkness than to remove our own blindness.

Some portions of the impenetrable darkness have been pointed out in former Essays. For instance, that the *efficient cause*, or the *essence* of the action of drugs cannot be known to us, has been argued. Again, the great evil of feigning *hypotheses* to explain this hidden thing has been insisted upon. And here, to prevent a misunderstanding, suffer me to say that this word "hypothesis" is used in two senses; in one sense it is useful to the progress of science; in the other it is the bane of science. "Hypotheses" or conjectures are of great use to *suggest* further enquiries and experiments; to *explain* unknown things they are hurtful and obstructive.

We will now make an effort to open our eyes, and to look at the action of drugs in "its simplest and plainest forms."

To this end we will first notice briefly three propositions respecting the action of drugs which may be considered as proved, and, I think, as accepted by the assembly I have now the privilege of addressing. This, for the purpose of making the propositions which are to follow more easily understood.

I. *Homœopathy in the general.*

What are remedies? Poisons are remedies. "It has been heard of old time in the world, that poison is the antidote to poison." This is as the proposition was expressed three or four thousand years ago. In modern times, and in the language of Shakspeare, it is expressed in the words "In poison there is physic." This is startling. How contrary to anticipation, to *à priori* reasoning, that that which does harm in health should do good in sickness! The human mind would never have discovered this by ages spent in cogitation and reasoning. Our knowledge of it is wholly due to observation. It is a *fact*, not contrary to reason, but beyond its reach. Nevertheless, our knowledge of its certainty is such that, as a proposition, it is indisputable. BRODIE himself could not doubt it. *Arsenic* and *aconite*, *mercury* and *belladonna*, *copper* and *veratrum* are among the most deadly poisons we are acquainted with; and are they not also among the best remedies we possess? This lies before us as a plain fact of observation, admitting of no question—much less open to any denial.

But how have mankind acted upon and carried out in practice this great principle? Truely with many blunders. Enormous doses of powerful poisons have been given, under the guidance of false views, in all ages, to the grievous detriment of the sick. Even HIPPOCRATES himself sometimes killed his patients with *hellebore.* Men in modern times have been misled in the same manner. Mr. Annesley's magnificent quartos, *On the Diseases of India,* are filled with scruple doses of *calomel.* Dr. Rasori boasts of giving half-dram doses of *tartar-emetic* in pneumonia, and others follow in his wake.

Such abuses as these have tended to bring the use of medicines into discredit; this tendency has been much increased since the manifest failure of the ordinary treatment of disease has been placed besides the success of the small doses of homœopathy, and so the expectant or nothing-do method is becoming the prevailing one of our time.

The abuse of a thing is not a good argument against its use; moreover, that which is true in the general must be true in its particulars. If all poisons are remedies, then each poison is a remedy, and the question arises, a remedy for what?

After ages of blundering and guessing, or to speak with more professional propriety, after the reign of a succession of hypotheses, we are indebted to SAMUEL HAHNEMANN for giving us the first part of the true answer. This brings us to the second proposition.

II. *Homœopathy in the individual.*

Drugs, when taken in health in certain doses, produce symptoms which are peculiar to, and characteristic of, each drug; and when given in smaller doses in diseases having similar symptoms, they are the best remedies for those diseases. Homœopathy in the individual. This is Hahnemann's homœopathy—"similia similibus curantur."

Whoever will look with open eyes at the experiments which have been made on healthy and on sick persons, during the present century, will be constrained to admit that the detail of facts summed up in this second proposition makes a statement as undeniable and as indisputable as is the general fact expressed in the first proposition.

Does not *arsenic* in certain large doses produce inflammation of the stomach and bowels? In certain small doses it cures both. Does not *phosphorus* cause congestion and inflammation of the lungs and bowels? We see it in smaller doses cure these diseases in a surprising manner. Does not *opium* in certain doses bring on congestion of the veins of the brain—one form of apoplexy? We see it in certain small doses cure such congestion, and stave off attacks of apoplexy threatening to be fatal. Do not *cantharides* cause strangury? And was not Dr. Greenfield sent to Newgate by the President of the College of Physicians for curing strangury with these spanish flies? And this notwithstanding that Hippocrates, more than twenty centuries before, had said that "what causes a strangury will cure it?" And thus of all the rest, for it is so true of every known drug, that it may safely be predicated of every unknown drug. Therefore, it is a true induction. Does not *veratrum* in one dose produce cholera, and in another cure it? Does not *belladonna* inflame the brain, eyes, and throat, and does it not cure similar inflammations every day? And *bryony* cause rheumatism, and cure it? And *ipecacuanha* sickness, and *rhubarb* diarrhœa, and cure them? But where shall we stop? There is no known exception to this rule. We might as well be asked if we can distinguish light from darkness, as be asked if we can doubt this proposition of Hahnemann.

The proposition has, indeed, been denied, misrepresented, and ridiculed in an amazing manner, and with amazing perseverance; but it is true notwithstanding, and its reception by the medical profession as a body cannot be long deferred. The real difficulties which surround it, the substantial objections which may be urged against it, we will notice by-and-bye, and I think it will be our privilege to see them removed.

The various ways in which the discovery of the action and use of drugs may be sought for have so recently been studied in these Essays, they need not detain us now. Here we are agreed that the true method of making this discovery is, first, to observe the effects produced by drugs upon health, and then to observe their effects upon disease.

By pursuing this method Hahnemann was led to make the announcement of the dogma, "*similia similibus curantur*," which he explains in these words :—

"Take the medicines according to the symptoms careful and repeated observation has shown they produce in the healthy body, and administer them in every case of disease that presents a group of symptoms comprised in the array of symptoms the medicine to be employed is capable of producing on the healthy body; thus will you cure the disease surely and easily."[1]

This was the first modern statement of a guiding principle. The first view of the pole-star in medicine. Like the pole-star in the heavens, when first viewed by the naked eye it appeared to be but one star; moreover, as so seen it was nebulous, hazy, and indistinct.

It has just now been remarked that there are difficulties which beset this proposition as stated by Hahnemann, and which are true objections to it.

The first of these is the haziness or indistinctness which surrounds it. This defect robs it of its brightness in a scientific point of view.

It is a two-fold defect, for this indistinctness or indefiniteness belongs to it in two directions. One of these is *the indefiniteness of its application*. Hahnemann made his principle applicable to an unlimited extent. For example, he imagined it to apply to the physical agencies of light, heat, electricity, and magnetism; again, to the moral feelings; and again, to the action of one disease upon another. These obscurities w fully discussed, and it is hoped, cleared away in t early Essays of this investigation: and do not req to be noticed now beyond the remark that it seem be proved in those Essays that the principle of homœopathy is limited in its application to the sea of drugs.

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[1] 'Lesser Writings,' page 587.

The other direction of this defect lies in the inde *niteness of similarity itself.* The term "like" "similar" is too vague to satisfy scientific accur In this sense also, as well as in the one just noti astronomers would call it nebulous, that is, want the defined lustre of a star. How is this defect t *removed?*

When we have looked at the pole-star in heavens through the telescope of the astronomer have seen that it is not a single but a double s When we have looked at the principle of homœopa through the telescope of time we see that it also is *single* but *double.* *Similarity* still remains as longing to the symptoms, but *identity* makes it visible as belonging to the seat of the sympton The first star, though hazy, continues to shine before, but the second star shines also, and is l nebulous, less hazy, less indistinct. And this is third proportion:—

III. *Organopathy.*

The symptoms which each drug produces, w taken in health, are assignable to certain parts of body as their *seat;* and they are remedies for diseases of those parts. This is organopathy. T word is intended to express the identity of the seat drug action and the seat of disease.

This proposition has been so fully stated and e amined in former Essays that it does not need to explained or vindicated now.

Like Hahnemann's proposition it has met wi vigorous denial, opposition and ridicule; and it h been declared to be an old and exploded doctrine of a German called Rademacher, notwithstanding that the epitome of his notions given in the 'British Journal of Homœopathy' (1850, Vol. viii, page 253) plainly contradicts this accusation. But at our Congress at York last year we were told by Dr. Drysdale that now "nobody doubts it."

Let me repeat. The principle of the founder of homœopathy, when limited as has been pointed out, remains in all its vigour. The comparison between the symptoms produced by large doses of drugs in health, and the symptoms presented to our observation in disease—all that Hahnemann meant to express by the phrase "*similia similibus curantur*," or by the word homœopathy, steadily abides.

And it may also be asserted that the identity of the seat of action of drugs, and of the seat of diseases for which they are remedies—which is the proposition meant to be expressed by the word organopathy—also remains unshaken by all that has been said against it.

We are now prepared to advance from these three propositions, which are known and received, to others with which we are less familiar.

IV. *The Kind of Action of Drugs.*

There is another difficulty or defect which belongs to Hahnemann's homœopathy which it is important that we should perceive clearly. It may be thus stated :—

The two portions of Hahnemann's method are the outside links of a chain of causes between which there are several unknown links. These two portions are the symptoms of diseases and the symptoms of drugs.

That drugs produce when taken in sufficient doses in health, symptoms similar to those produced by other causes of disease, is a fact which does not require further proof at the present day. But the collocation or placing side by side of the symptoms of drugs and the symptoms of disease, so as to perceive their similarity, as is done by Hahnemann, is an empirical arrangement; and consequently the rule of practice that the drug having similar symptoms is the remedy for the similar disease, deduced from this arrangement, is an empirical law.

It is to be observed that these symptoms or detached facts, thus placed side by side, are separated from each other by a considerable distance, and that there must be several links of unobserved facts between them, and by which, as so many intervening causes, they must be joined together. The two outside links are recognised by us, but the connecting links are not yet seen distinctly. It is a duty to endeavour to discover these intermediate links.

The first has already been pointed out; it is the identity of the *seat* of action of drugs and diseases.

The second has now to be stated; it is the identity of the *kind* of action of drugs and diseases.

The third will be indicated by-and-bye.

Drugs are distinguished not only by their symptoms, and by the seat or origin of the symptoms, but also by the *kind* of action by which the symptoms are produced.

It has often been stated in these Essays that each cause of disease has an action peculiar to itself, by which it is characterised, and by which it is distinguished from others. Drugs are a cause of disease, and the same is true of them. Each drug has an action peculiar to itself, by which it is characterised, and by which it is distinguished from every other drug. We are now considering the action of drugs on healthy persons.

This difference consists partly in the action being on different organs of the body, and partly in its being of a different kind. The characteristic symptoms being the joint effect of these two differences.

Organopathy, the subject of the last proposition, deals with the different localities of the action. For the most part its details are sufficiently intelligible.

The kind of action is a more subtle existence, harder to identify and distinguish. Where does it begin?

The phenomena of life are a circle, and there is no visible beginning in a circle; but since we must begin our research somewhere, and since the blood is eminently the life, we may safely take the beginning of action to be in the blood. We will presume, therefore, that the first difference consists in a difference in the condition of the blood.

Each drug by its own presence produces this difference. This seems obvious. As each drug is a peculiar thing, its presence in the blood must be sufficient to constitute a peculiar condition of the blood. The living fluid, and the life of that living fluid, are affected by the presence of this foreign and peculiar thing.

The next stage is the action of this changed blood upon the living solids of some particular organ, or organs of the body; the part acted upon has been called the protoplasm or, by Dr. Lionel Beale, the bioplasm.

This action on the bioplasm produces the objective symptoms—the symptoms which can be perceived by the physician.

Simultaneously with this action on the bioplasm impressions are made on the nerves of the part. These impressions are conveyed to the brain, and give rise to the subjective symptoms—the morbid sensation felt by the patient.

Suffer me to place these ideas before you in other words:—

"The blood is the life," and we may believe that the first contact between life and the causes of disease, including drugs, takes place in this living fluid. Here is the first meeting, the first impression, the first action, the first change from health, the first morbid phenomenon; the link in the chain which connects the exciting cause with all the successive phenomena of any disease whatever.

From this beginning arise inflammatory conditions of the arteries, congestions of the veins, obstructions in the glands, irregular contractions and paralysis of the muscles, derangements of the digestive and respiratory processes, morbid nutrition, altered structure, disease of all parts.

From this also spring all kinds of painful sensations and morbid feelings.

The condition of the blood, therefore, admits of as many alterations as there are kinds of substances which can enter into it and act upon its life.

If we take this condition of the blood as included in our present enquiry into the kind of action, there will be as many different kinds of action as there are causes of disease, or kinds of drugs.

Of many of these kinds of action, and even of the existence of their causes, we should have no knowledge, but for the differences in their subsequent effects. For example: the causes of some contagious diseases are so subtle as to elude our observations. They act upon the same parts but give rise to very different symptoms; proving that the *kind* of action is different. They require different remedies, and the difference in the symptoms both points out the difference in the kind of action, and directs us in the choice of the remedy.

These remarks apply only to material causes of disease and material remedies. The mind has also power to disturb health, and even to destroy life. It may act upon the blood through the brain and nerves. It can derange the functions of any vital organ.

Thus it appears that drugs have many kinds of actions. How are we to become acquainted with them?

Let us first have a clear perception that the action itself in its essence, that is, the link which joins the proximate cause to the proximate effect is one of the unknowable things; and let us not be ashamed to confess this. There are many things which we cannot *do:* such were the dreams of the alchemists, who tried in vain to turn lead into gold, and to discover the elixir of life; and there are many things which we cannot *know*, and we waste our time if we try to find them out. God's way of working in this sense is hidden from us.

Man's pride has made him labour to hide this unavoidable ignorance from himself by the invention of explanatory hypotheses or conjectures. Suffer me to repeat once more my protest against such hypotheses in medicine. They are the greatest barrier to progress which exists. Facts are grains of gold, and hypotheses are the mountains which cover them.

Another protest I ask leave to make against the use of words and phrases which are either void of meaning, or to which only undefined ideas can be attached. They are counterfeit coins of no intrinsic value, and serve only to deceive. True words are the current money of the mind. The word "catalysis" in chemistry is an example of a meaningless word: and in "The Nomenclature of Diseases," published by the Royal College of Physicians, the first division of "General Diseases" is a vague and undefined phrase from which nothing is learned. What is meant by calling "hooping-cough" and "mumps" "diseases of the general system?" There is nothing in nature but individuals; nothing in disease but disease of individual parts; nothing in the action of drugs but action upon one or more of these individual parts.

We admit, then, that the manner in which drugs act, or the action itself, is beyond our power to discover. We remember that the action is always a local action, the antecedent cause of which, and its consequent effects, are phenomena we can observe, let us now enquire how this knowledge which is within our reach is to be obtained?

It is to be learned in the same manner as the knowledge of the seat where the action takes place, by experiments on healthy persons.

Experiments in health were made on a large scale first by Hahnemann. The results are recorded by him in a peculiar manner in his 'Materia Medica' and 'Chronic Diseases.' They have been added to by similar experiments similarly arranged by others. These volumes have hitherto been the guide followed in the greatest part of homœopathic practice. They exhibit in great detail the symptoms caused by each drug. From these symptoms we may often learn both the seat and the kind of action of the drug to which the symptoms belong.

These experiments have commonly been made with large doses of drugs: doses sufficient to produce considerable and sometimes very great disturbance of health. The knowledge acquired is that of the action of large doses. Further experiments are required to be undertaken with the *intention* to discover the seat and the kind of action.

Nearly all experiments before Hahnemann, with such doses of drugs, were made upon the sick. The object of both sets of experiments, that is, both on the healthy and on the sick, is the discovery of the uses of drugs as remedies for disease. These two great labours of physicians resemble the tunnelling of Mont Cenis; an arduous work begun on opposite sides of the mountain; by the French on one side, and by the Italians on the other. Each had some miles to penetrate, and to persevere until it met the other. The earlier physicians laboured for centuries, guided by the notion that the action sought for must be of a *contrary kind* to that of the disease. The later ones have worked on till they have met the other, and the result is a surprise. It is the discovery that the compass which is to guide us in future is an action of the *same kind* as that of the disease.

The ideas I wish to communicate to you on this subject may, perhaps, be made clearer by giving some details relative to the action of particular drugs.

The heart. Aconite and digitalis. These plants have a powerful and well known action upon the heart. In the doses commonly experimented with in health, or to speak with more precision, in a certain range of doses, aconite quickens the movements of the heart, and digitalis diminishes them. The locality or seat of the action of these two drugs is the same. The kind of action of one is in the opposite direction to that of the other. They are antidotes to each other. Aconite is given as a remedy when the heart beats too quickly. Digitalis when its beats too slowly. The *kind* of action of the drug is the same as the *kind* of action of the disease for which it is a remedy.

The brain. Opium and Belladonna. These act with great power upon the brain. In the doses just described opium congests the veins and produces apoplexy; belladonna distends the arteries and causes inflammation. They are respectively given as remedies for the same kind of action of disease. The locality of the action of opium and belladonna is not so identical, nor is the kind of action so directly opposite as in the preceeding example, but the former is sufficiently connected, and the latter is sufficiently contrary to make these two drugs to some extent antidotes to each other.

Spine and spinal nerves. Nux vomica and cocculus. These two drugs act powerfully upon the spinal system of nerves. Their contrasted kind of action deserves more careful study, but it appears, at present, to be in opposite directions. Nux vomica tending to produce spasms, and cocculus paralysis. Each is given as a remedy in cases of disease which correspond to its own kind of action, so far as that has been ascertained.

Throat. Mercury and belladonna. The difference in the kind of action of these drugs is very visible. The former causes ulceration, the latter inflammation of the mucous membrane of the throat. They are respectively given, every day, as remedies for the same kind of unhealthy condition.

Muscles. Copper and lead. These two metals have a strong action upon the muscular fibre. The former causing spasmodic contractions, the latter paralysis. They are successfully prescribed as remedies in the same kinds of morbid states. They act upon the same organs, but in opposite directions, and so are antidotes to each other.

Uterus. Secale and actæa. These have an action on the same organ but in opposite directions. The former producing contraction, the latter relaxation. They are to be prescribed accordingly.

Bladder. Cannabis and cantharis. It deserves careful experimentation to learn how far these are contraries to each other in their kind of action on the bladder.

Iris. Belladonna and Calabar bean. The former dilates the pupil, and the latter contracts it; and they are remedies accordingly.

Of course a large number of drugs have actions which are different from, though not contrary to each other in kind. The examples given are sufficient to explain distinctly what is meant by the *kind of action* of a drug.

By the discovery of two of the intermediate links, the outer ones upon which Hahnemann has hung the dogma "*similia similibus curantur*" have been brought into a clearer connection with each other. By this discovery the mystery in which the chain of causation was suspended is to some extent dissipated. The rule becomes less empirical, and is not far removed from a true induction.

We have spoken of the principle of homœopathy as the pole-star of medicine; seen at first indistinctly it was hazy; on being looked at with more care a second star became visible; and having again been viewed attentively it is seen to consist of three bright stars instead of one. The astronomers would say that it is more satisfactorily defined.

Another simile has been used; the principle has been described as a basis or foundation. It is now three-sided, and it can support a three-sided column.

On one of these sides "similarity of symptoms" was carved by Hahnemann; on the next is engraved "identity of seat of action;" and on the third is now written in legible characters "identity of kind of action."

This chapter shall close with a few brief remarks upon *symptoms*, and the uses which may be made of them by thoughtful observation. They are of use—

1. To discover the seat of disease. For this purpose some symptoms are of much greater value than others.

In the same manner the seat of the action of each drug, if it is not actually visible, may be discovered from the symptoms. When a drug is prescribed as a remedy it must be able to act in the locality of the disease. In other words, the seat of the disease and the seat of the drug action must, so far as we can ascertain, be the same.

2. To learn the kind of diseased action. For this also some symptoms are much more useful than others. When a drug is given as a remedy, its kind of action, so far as we can discover it, must be the same as the action of the disease. This second study of the symptoms serves to distinguish from each other the drugs which act upon the same organs.

These two uses are for the purposes of diagnosis and treatment.

3. To form an opinion of the probable result or termination of the illness. Again, some symptoms are much more of a guide than others. This is for prognosis. Sometimes the symptoms which at once decide the diagnosis are quite different from those which should guide the treatment, and both of these may differ from the symptoms which determine our opinion of the probable result.

It is to be noted that the previous symptoms from the commencement of the illness, or what is called the history of the case, require attention as well as those which form the present condition of the patient.

We will now go in search of another of the yet undiscovered links in this wonderful chain of causes which join together the two outside links, the symptoms of drugs with the symptoms of diseases.

V. *The Action of Small Doses.*

My brethren, the time is come when the dangerous question of the small dose must again be taken up. Twenty years ago, as some of you may remember, I wrote an Essay upon it with deep interest. The novelty of the subject and its beauty charmed me, and I heartily desired that its contemplation might give as much pleasure to others as it did to myself. Since that time, whenever the purpose of continuing it has arisen, increasing difficulties have gathered round me, till I saw that the small dose could not be further dealt with, unless the principle of homœopathy could be placed upon a more stable foundation, and in a clearer light.

This task, I flatter myself, has now been accomplished.

The resumption of the pursuit after the truth of the small dose can, therefore, be no longer deferred. But it is a doleful and a thorny path, and in entering upon it I am reminded at the same moment, by its dolefulness of Æneas's trouble when Dido asked him to recount the disasters of the seige of Troy :—

> "Infandum, Regina, jubes renovare dolorem ;"

and by its prickles, of those sturdy thistles which are the national emblem of our northern neighbours, and which are surrounded by the appropriate motto :—

> "Nemo me impune lacessit !"

Nevertheless, the time, which neither troubles nor prickles can postpone, is come, and the path must now be trodden.

An attentive perusal of the 14th and 15th of Dr.

Dudgeon's 'Lectures on the Theory and Practice of Homœopathy' is sufficient to convince us that the question of dose is lost in the same dark labyrinth in the new school of medicine, that the question of remedy is in the old school. There are plenty of judgments given in each school on the difficulty which agitates it, and all these judgments profess to be based on experience. The results in both cases are a lively illustration of the truth of two portions of the first aphorism of Hippocrates, namely, that "experience is deceitful, and judgment difficult."[1]

Nothing can be more variable, nothing can be more contradictory than the many judgments given by Hahnemann himself, upon the doses of medicine. Sometimes he recommends substantial doses, little differing from common ones. Sometimes excessively small quantities, but these varying with each drug, with the nature of each disease, and with the susceptibilities of each patient. At one time he advocates the use of the smallest doses in acute disease, and larger ones in chronic cases; and he finally closes the subject by fixing upon the 30th dilution as the proper dose of every drug and for every disease. He laid down this law, but he did not himself follow it; he laid it down to bind others, but they have never been bound by it. The changes in Hahnemann's teaching on this and on other important points of medical doctrine and practice have drawn from Dr. Dudgeon the following damaging reflection:—

"How curious it is to observe that Hahnemann continually contradicts himself on almost every point of his doctrines and practice; and still more curious it is to notice that the contradiction is generally side by side with the opposite statement."[2]

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[1] See also the leading article in the 'Monthly Homœopathic Review' for August, 1871 (Vol. XV, page 449), by Dr. Pope; which contains as good a summary of the present state of knowledge and opinion on the question of dose as could be given.

[2] Dr. Dudgeon's 'Lectures,' page 406.

There are no doses which Hahnemann has at one time adopted, and at another abandoned. that, in truth, the question is left by him in greatest confusion. He sometimes used appreciab doses, and he introduced the use of infinitesimally doses, but he discovered no clue by which we might guided in this labyrinth.

Nor are the judgments pronounced by succeeding writers in the new school on the doses of medicines any degree less contradictory.

Dr. Kan says: "The best guide is the maxim the susceptibility of the organism for homœop irritation is in the direct ratio of the violence of disease. Thus the more violent and acute the dise the smaller must be the dose of the remedy, and larger must it be, the longer the disease has lasted the more chronic its character is."[1]

On the contrary, Dr. Trinks says, the maxims experience has determined are—

"1. *Acute diseases require the lower (strong dilutions.*

"2. *Chronic diseases higher (smaller), and often highest (smallest) attenuations.*

"3. *There are many exceptions to this.*"[2]

Dr. Dudgeon himself seems to adopt this vie He says:—

"Though we are still considerably in the dark w respect to the suitable dose of a remedy, I think darkness has been partially dispelled by the experien of so many homœopathic practitioners extended ov so many years. This experience seems to show th the more material doses, or the lower dilutions medicines, ... are best adapted to diseases rapid course and considerable violence; and that th higher dilutions are better adapted to diseases of more chronic character; but there are many exceptio to this."[3]

Dr. Geddes Scott in like manner argues that th potency to be chosen is determined by the character of the disease.

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[1] Ibid., p. 409. [2] Ibid., p. 423. [3] Ibid., p. 445.

There are many other maxims and rules given by other writers which would occupy too much time were I to quote them.

Of these maxims and rules I beg you to observe two things :—

First. The authors of them admit that there are many exceptions to them ; so that they can have no claim to be received as natural laws. They resemble the rules of grammar, not the laws by which God governs His works.

Secondly. They are derived from the same barren source from which the old schools of medicine have, in all ages, attempted to derive rules for the choice of remedies—namely, the consideration of the disease and of the patient, *not of the properties of the drug*. Now, Hahnemann's law of homœopathy was discovered by forsaking this path, and following another. He turned his attention to the action of drugs in health. It is surprising that homœopathists should have been beguiled into following again the old course, which had so signally failed, and should have expected to find rules for the dose in this way.

The knowledge we desire, and which we are now in search of, is the knowledge of the action on disease of small doses of drugs. How is it to be obtained ?

It is said on all sides that the only way of learning the action of these doses, and how to choose the best is the way of *experience*. But experience without a guide is a ship without a compass. Blind experience teaches little. It is always justifying the condemnation pronounced upon it by Hippocrates, and proving itself deceitful. The method of experience has failed. A *guide* for experience is needed; how is it to be found ? Not by experiments on disease itself. These experiments have been made for many years, and by many physicians, and the guide has not been found.

Attention to Lord Bacon's Sixth Aphorism will us:—

"It would be madness to suppose that th which have never yet been performed, can be formed without employing some hitherto unt means."

What means are there yet untried which we adopt with renewed hope of success? For sev years I have urged upon my colleagues the neces of learning the action of different doses in manner that Hahnemann discovered the action different drugs. By experiments with them in heal

As far as I am aware no one has yet taken up t work. I shall, therefore, now endeavour to recomme it again, not by showing its necessity, but by beginn to do it.

The action of large doses—that is, of poison and of ordinary medicinal doses—has been ma known to us, to a great extent, by cases of poisoni and by provings, or voluntary experiments with the in health.

The action of small doses, *as distinct from that large ones*, has not been studied by separate provir of them in health. This knowledge is demand and it is the search for it which I have attempted begin.

Experiments with small doses.

These experiments have been carried on for so time during every opportunity of leisure. They ha embraced a considerable variety of drugs; among the these:—

Aconite.
Digitalis.
Phosphorus.
Spigelia.
Opium.
Veratrum.
Mercury.
Tartar emetic.

Most of the experiments have been several times repeated. The doses experimented with have not embraced quantities smaller than the first centesimal dilution or trituration : that is, the hundredth part of a drop of the sap of a plant, or the hundredth part of a grain of a mineral. No opinion respecting the action of smaller doses than these is given ; they remain to be investigated by others. Nearly all the experiments were made upon myself, and under conditions as nearly uniform as was possible ; this has appeared to me a great advantage. It may be remarked that I am sensitive to the action of small doses, having taken none other for three and twenty years; it is not presumed, therefore, that *exactly the same doses* will be followed in every one by the same effects; but it is believed that these experiments have been so carefully made that they are typical, and that the same results will follow in all other experiments, made with equal care, *within a certain range* of these doses.

This is not the opportunity to give the details of these experiments, but I am happy to be able to state some of the conclusions which may be drawn from them, and to give some brief examples.

And, first, of individual drugs :—

Aconite.

Aconite seems to have at least four different kinds of action upon the heart, which are dependent upon the dose.

First action. A dose of one or of two drops of the first centesimal dilution first quickens the heart's action for a short time (one, two, or three minutes), then retards it.

e.g. Oct. 19, 1872, one or two drops of this tincture taken in separate experiments, when the pulse was 80, in one minute raised it to 82, in two minutes to 84 or

86, then, after the third minute, it fell to 82, and after the fourth minute to 78 or 76.

Second action. One or two drops of the sap of the plant (two or four drops of the "mother tincture"), quickens the heart's action, and no retardation follows.

e.g. Dec. 3, 1872, my pulse at 72 was raised in three minutes to 75, in five minutes to 78; it fell in ten minutes to 76, in fifteen minutes to 73, and in twenty minutes from the commencement of the experiment to 72, at which it remained.

Third action. We know from many published cases that larger doses than these (several, or many drops of the tincture), first depress the heart's action for a short time, then quicken it very much.

Fourth action. From similar sources we learn that still larger doses (some solid portions of the plant itself), destroy life during the first depressing action. Mr. Gordon, of Dingwall, died in this manner.

These four kinds of action of aconite may be reduced to two, in their tendencies. First, the action of small doses; the tendency of these is to quicken and then to retard the pulse. Second, the action of larger doses; the tendency of these is to retard or depress, and then to quicken the heart's beats. When the experiments fail to produce these consecutive effects there is some impediment in the way.

Aconite, then, in small doses, quickens the heart's action for a brief period before it retards it. This has probably been observed for the first time. The observation surprised me.

It very soon makes the pulse slower. This we are all familiar with in the use of aconite as a remedy in inflammatory fever. I lately saw a pulse of 130 brought down to 40 in about three days, by repeated doses of this first dilution of aconite.

The range of these small doses having this action on me lies between the first dilution and the one-fifth part of a drop of the mother tincture: that is, from the hundredth to the tenth part of a drop of the sap. It is probable that in others it may lie between this tenth part and a whole drop.

Of all these varied actions of aconite upon the heart the only truly curative influence is the second action of the small dose. It follows that the only legitimate use of aconite is in doses which produce this retarded motion of the heart.

Digitalis.

Hahnemann says that aconite and digitalis are "analogous remedies." It is true that the locality of their action—the heart—is the same, but their kind of action on this organ is in opposite directions.

Oct. 21, 1872. 7.30. A.M.
Pulse 80.
One drop of Tinct. Digitalis 1 (cent.) taken.
1st minute, 80.
2nd „ 80.
3rd „ 80.
4th „ 80.
5th „ 80.

6th minute, 80, second drop taken.
7th „ 76.
8th „ 76.
10th „ 78.
12th „ 76.
14th „ 78.
16th „ 80.
20th „ 80.

21st minute, 80, third drop taken.
22nd „ 76.
23rd „ 76.
25th „ 76.

27th	minute,	78.
29th	„	78.
30th	„	80.
32nd	„	83.
34th	„	84.
36th	„	85.
40th	„	84.
63rd	„	80.

It will be noticed that this action is the reverse of that of similar doses of aconite.

8.30 A.M., an hour after commencing the proving, there was a very decided action on the kidneys, shown in increased secretion.

A second kind of action is produced by doses of digitalis a hundred times larger than these :—

Dec. 2, 1872. 12.30 P.M.
Pulse 64.
Two drops of Tinct. Digitalis φ taken (equal to one drop of the sap of the plant.)

5th	minute,	68.
10th	„	72.
15th	„	68.
50th	„	64.

At which it remained.

Three and four times this quantity produces a third kind of action :—

June 11, 1873. 7.35 A.M.
Pulse 66.
Six drops of Tinct. Digitalis φ taken.

2nd	minute,	68.
4th	„	67.
6th	„	66.
8th	„	67.
10th	„	68.
15th	„	66.
20th	„	63.
25th	„	64.

June 16, 1873. 7.50 P.M.
Pulse 72.
Eight drops of Tinct. Dig. φ taken.
2nd minute, 73.
4th „ 74.
6th „ 76.
10th „ 74.
40th „ 72.
60th „ 66.
80th „ 64.
100th „ 72.

The result of these and similar experiments with digitalis, both in health and sickness, is the conviction that the curative action of this plant is the second action of the first centesimal dilution. This is the power which it possesses of increasing the contractile force of the heart—both in frequency and strength. It is the direct opposite of aconite. In old language aconite is a febrifuge; digitalis a tonic. It is my belief that these drugs are never legitimately employed as remedies in affections of the heart except in these two opposite capacities.

It is further worthy of notice, in relation to these two plants, that they both have a powerful action upon the kidneys, and that they both act upon this organ in the same direction. A certain range of doses of aconite and of digitalis increase the secretion of urine, and a certain range of larger doses of both cause suppression of it.

Your time must not be occupied with *cases*, but one may be given as an example :—

Case.—Mrs. S., a stout lady, of 58, has frequently suffered from disturbance of the heart, the first occasion of which was an attack of rheumatic fever, and which is characterised by a feeble and intermitting pulse, a sense, not of acute pain, but of great discomfort about the heart, especially when walking, and general weakness. This state of things has been repeatedly removed in a few days by digitalis. The dose is one drop of the first centesimal dilution—the [illegible] [illegible] [illegible], of the [illegible]—three times a day. The improvement in the action of the heart begins soon after beginning to take the medicine and the pulse becomes slow and stronger. The benefit derived by the patient is [illegible] very striking to himself.

Thus it is remembered that aconite and digitalis are opposites in their action on the heart. They are in fact antidotes to each other. The action of the one is as opposite as the action of belladonna and [illegible] upon the pupil. If we would use them aright as remedies we must give aconite to diminish its power and digitalis to increase it.

Phosphorus.

We are indebted to Hahnemann for teaching us how *to make the doses of this poisonous* substance small *enough to be used* with safety and success as a remedy. *We learn that in the doses* he used in his provings of *it, its action on the heart is powerful.* He gives these *symptoms*:—

"*Fever* with small, hard, quick pulse. Accelerated *circulation of* the *blood.* Throbbing of the carotids. *Pulse* quick and full; *or,* pulse quick and faint."

On the principle of similia, &c., therefore, it is used in inflammation and inflammatory fever.

The following is a careful proving of a small dose:—

Oct. 19, 1872. 8 P.M. Pulse 74.
One drop of Tinct. Phosp. 1 (cent.) taken.

1st minute,		76.
2nd	„	76.
3rd	„	74.
4th	„	72.
5th	„	72.
6th	„	72.
7th	„	70.
8th	„	70.
10th	„	72.
20th	„	74.

Which continued.

8.30. Pulse 74.
Second drop taken.
1st minute, 72.
2nd „ 72.
3rd „ 72.
4th „ 70.
5th „ 70.
6th „ 70.
7th „ 70.
8th „ 72.
10th „ 72.
20th „ 70.
Which continued some time longer.

From these experiments it appears that phosphorus acts upon the heart in small doses in the same manner that aconite does in similar doses. So that, to this extent, its use in inflammation and inflammatory fever is justified.

Spigelia.

It has often been remarked with regret that Hahnemann does not tell us the doses he experimented with in his provings of drugs in health. We may, however, form some idea of the doses of spigelia used by him from his preface to the proving of this plant. He says :—

"The provings ought to be instituted with the greatest care, inasmuch as even *sixty*, *eighty*, or a *hundred drops* of the tincture produce powerful effects in even robust and very healthy persons."

From such experiments as these we learn that spigelia acts strongly upon the heart. The pulse is said to be irregular, now slow, now quick ; and falls from 72 to 54. Palpitation and unusually strong beatings of the heart, &c.

The following proving shows very accurately the action of a small dose of spigelia upon the heart :—

Oct. 21, 1872. Evening 7.20.
Pulse 77.
Tinct. Spig. 1 (cent.). One drop taken in 2 dr. of water.

1st	minute,	76.
4th	„	75.
8th	„	78.
10th	„	77.
12th	„	77.
20th	„	77.

7.40. Pulse 77. A second drop taken.

2nd	minute,	79.
5th	„	78.
10th	„	78.
15th	„	78.
20th	„	78.

8.0 o'clock. Pulse 78. A third drop taken.

2nd	minute,	80.			
5th	„	80.	Respirations	10	and deep.
10th	„	82.	„	8	„
15th	„	84.	„	6	„
20th	„	80.	„	8	„
25th	„	79.	„	10	„
30th	„	79.	„	14	no longer deep.
35th	„	78.	„	16	„
60th	„	77.	„	17	natural.

Taken by surprise by the slow and deep breathing.

It will be observed that this action of spigelia on the heart is the opposite of the action of phosphorus and aconite, and that it corresponds with that of digitalis. Its use as a remedy is indicated as one similar to the use of digitalis—to strengthen the action of a feeble heart.

It will also be observed that a new element is introduced in this proving, namely, the function of respiration.

Let us linger over this a few moments. The effect, after the third dose of spigelia, was very remarkable. It took me quite by surprise. The breathings became so slow and so deep that it was in fact a process of slow and deep sighing. This ought to be remembered when we meet with a similar condition of respiration in a patient, especially in connection with a feeble heart.

It may be objected that the respiratory function is not so entirely removed from voluntary influence as the heart's action is, and that this slow breathing may have been, partly at least, my own fault. To obviate this objection experiments were made (on Nov. 22, 1872) on *voluntary* slow and quick breathing.

It was found that it is possible to get over a minute with *three* breathings; or to make above *thirty*. But the effort required to accomplish either of these feats is considerable; so that a conscientious experimenter can have no difficulty in avoiding this cause of error. He can distinguish very well involuntary slow or quick breathing from any such efforts of his own.

It should be remarked that in these provings of small doses of drugs, intimations that other organs were slightly affected were occasionally given; for instance, while taking the spigelia, a shoot of pain through the forehead was felt. But these are omitted to prevent complications and distractions of thought.

Opium.

This is considered the most valuable of all drugs by the ordinary practitioner, and he gives it every day as a sedative and as an astringent.

It is well known that large doses of opium, or its tincture laudanum, do possess these two kinds of action.

It is also well known that comparatively small doses (from the eighth to a quarter of a grain or more), have a contrary action; that is, a stimulant one upon the circulation and the nervous system. This action, though known, is not much taken advantage of by physicians. It is sought for by a large multitude of people who take opium themselves.

It is not yet known that such small doses as are under investigation in this essay also possess the power of increasing the heart's action, and of enlivening the brain.

I have tried many experiments with doses from the hundredth part of a drop (the first dilution) to two drops of the tincture of opium, and in every instance the pulse has been quickened, and sometimes rendered sensibly fuller, in two or three minutes, *e.g.*, from 66 to 68 and from 70 to 76. After a longer or shorter interval, *e.g.*, in from five minutes to an hour, determined by the dose, the beats return to what they were at the beginning, and sometimes afterwards descend a little below this. The manifest effect, in all these experiments, is increase of frequency, and often of fulness also.

The contrary of the small dose to the astringent effect of the large one is known only to homœopathists; but they do not always avail themselves of this knowledge as they might do. This is really a serious neglect, and in order to direct more attention to this valuable action of opium, I think it right to put on record the following case :—

Case.—An officer in the army, holding a high position in India, was in England in 1872. He was in good health, but inconvenienced by constipated bowels. He placed himself under the care of a very popular homœopathic physician in London, who prescribed for him for five months. Among the remedies prescribed were—nitric acid, 1 dec. ʒiij in aq. ℥iv : a teaspoonful in water twice a day ; bryonia, φ ʒij, seven drops in water night and morning ; podophyllum, gr. iij, sacch. lac. gr. vj, six powders, one at bedtime ; tinct. hydrastis, φ ʒij, 7 or 8 drops in water night and morning ; acid. phosphor. Ph. B. 10 drops in water, twice a day ; tinct. chin. nitr. 1 dec. ʒiv, aq. ad ℥viij, a tablespoonful in water 2 or 3 times a day ; tinct. nucis vom. φ gutt. xij ; sacc. lac. gr. xij, in a powder for an injection. Nux v. 1 dec. for two doses, &c. All this was without any benefit. He came down to Rugby in November. I gave him tinct. opii 1 (first centesimal dilution), part of a drop night and morning as long as required, but to be omitted when the bowels act. In March, 1873, he came again, and reported that the medicine for the bowels had answered perfectly; he had been two months without taking any; and was quite well. A degree of torpor or sluggishness of the bowels had, in fact, been his only ailment, and the small doses of opium had removed this.

Veratrum.

That white hellebore produces excessive diarrhœa has been well known since the days of Hippocrates. This is the action of the doses commonly given.

I have found that one drop of the first dilution of the tincture (that is, the hundredth part of the drop of the sap of the plant), taken night and morning, will produce constipation in four or five days. The person upon whom this was proved was a healthy young man.

Mercury.

In the same manner it is very well known that preparations of mercury are given every day to produce relaxation of the bowels. Half a grain of the first or second trituration of metallic mercury taken night and morning for some time will constipate the bowels.

Tartar emetic.

The action of this salt of antimony, as learned from cases of poisoning and from the provings hitherto made, appears to be on

The stomach and bowels,
The skin,

The kidneys,
The heart,
The lungs.

The organs which commonly escape its action are
The brain and spinal nerves,
The voluntary muscles,
The bones and joints.

Not only the kind of action, but also the organs selected to be acted upon, depends upon the dose. A grain will act on the stomach and cause vomiting; a quarter of a grain will act on the bowels and purge; one-sixteenth of a grain repeated a few times will act on the skin, and produce perspiration. Some doses will bring out an eruption on the skin very closely resembling the eruption of small-pox. The question to be answered now is this: What will the hundredth part of a grain do?

Nov. 4, 1872. 7.0 P.M. Ant. Tart. 1. One drop in ʒj of water.

		Pulse, 72.		Breathings, 18.	
	2nd min.	70.	4th min.	20.	
	5th „	72.	8th „	18.	
	10th „	67.	12th „	14.	
	15th „	72.	18th „	13.	
	20th „	71.	24th „	12.	
	25th „	74.	28th „	10.	
	30th „	68.	Deep, uncomfortable sighings.		
Quickened by the deep breathing.	35th „	70.	34th „	8.	
	40th „	72.	38th „	7.	
	50th „	77.	42nd „	6.	
	60th „	66.	52nd „	12.	
			60th „	18	natural.
	120th „	66.	„	18	

In this experiment the pulse, it will be seen, was slightly decreased in frequency, but the principle action was upon the respiratory process, which equalled that of spigelia.

This seems to be the place to notice the apparent *want of effect* of very large doses of some drugs. Tartar emetic, though so active a poison in doses of a grain or two, has been given in half-dram doses with little result. Tincture of digitalis has been given in ounce doses "with much less effect than might be imagined." "MM. Trousseau and Pidoux tell us that they have taken half an ounce of good asafœtida at one dose, with no other effect than that of altering the odour of their secretions, by which they were kept for two days in an infected atmosphere possessing a more horrible degree of fetidity than even asafœtida itself!" I know nothing yet which can be inferred from these remarkable facts.[1]

These examples of the proving of small doses must suffice, but before proceeding to more general conclusions it may be useful to repeat the results obtained relative to the pulse and the breathing.

The Pulse.

Aconite first quickens, then retards the pulse.
Digitalis reverses this order.
Phosphorus acts as aconite does.
Spigelia reverses this also.
Bovista acts too slightly to detect any order.
Lead does the same.
Oleander first quickens the pulse.

The Respiration.

Spigelia reduced the breathings from 17 to 6.
Bovista raised them from 17 to 22.
Lead first depressed them from 18 to 15, then raised them to 20. A second dose reduced them to 11, then quickened them to 23.
Oleander first quickened, then lowered them, reversing the action of lead.

And let me make one observation on these facts.

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[1] See Essay XXVI, on *saffron*.

We find a great deal said in works on medicine on the sympathy of the different organs of the body with each other: as of the brain and stomach, the heart and lungs, the skin and kidneys, &c. And all this is true, and of great interest. But the other side of the subject is rather overlooked; that is the independent action even of organs most closely connected with each other, as in the above instances of the heart and lungs.

The action upon these organs, whether of disease or of drugs, is not necessarily of a uniform or equal character. The pulse may be either quickened or made slower, and not the breathing, or *vice versâ.* In a case of pneumonia I saw a short time ago, on one day the pulse was 130 and the breathings 30; the next day the pulse had fallen to 120 and the breathings had risen to 36. Still greater differences were observable in the provings just recorded, showing the same independency.

The following general conclusions, or inductions, may, I think, be safely drawn from the experiments which have been made with small doses :—

1. The kind of action of drugs varies with the dose.
2. This variation, in a certain range of large doses, amounts to opposition to the kind of action of another range of small doses.
3. The directions of the range of large doses is the same as that of the diseases for which, in small doses, they are remedies.
4. The direction of the range of small doses is in opposition to that of the diseases which they cure.
5. This opposite tendency is shown in health. Its cause, therefore, is not a difference in the state of the organ arising from disease, but in the quantity of the drug.
6. The varying conditions of disease have their influence on the action of drugs, but the effects of this influence are not at present under investigation.

We are now prepared to consider how the information, so carefully obtained, bears upon our position as homœopathists.

Those who have honoured the early Essays of this investigation with a perusal, will remember that attention was asked to the vague and indefinite character of Hahnemann's law of homœopathy. He, in fact, as we all know, extended its application on all sides. This vagueness is one reason why the teaching of Hahnemann has been so distasteful and unsatisfactory to the medical profession.

It will be remembered that it has been distinctly shown in these Essays that the law should be limited to the action of drugs.

The next step was an endeavour to prove that symptoms, whether of diseases or of drugs, must be traced to their seat: the organs which are the seat of the action, both of the disease and of the remedy, being the necessary substratum in which the action takes place.

You will see that it is now my duty to point out another limitation.

The rule of similarity of action, as manifested by the symptoms of diseases and of drugs—the law of homœopathy—must be confined to the action of comparatively *large doses* of drugs.

Taken in this restricted sense—restricted not only to drugs, but to large doses of drugs, and to their action in health—the law or rule, we may venture to say, is irrefragable. It is a natural truth.

But it is a half-truth. This is another reason why it has not met with acceptance. Galileo's telescope consisted of two glasses: one had been looked through a long time by itself, but it was not till the other was found, and the two were placed so that both could be looked through together, that Jupiter's moons were seen.

Hahnemann's half-truth is the *similarity* of the action of large doses to the symptoms of diseases which small doses can cure.

The other half-truth now added is the *contrariety* of the action of small doses to the action of large doses, and consequently to the action of the diseases they are remedies for.

These two half-truths now put together make the treatment of disease as visible as Galileo's two glasses did Jupiter's moons. Those only who refuse to look through the glasses can fail to see either the one or the other.

A harmony in music is concord, the agreement of one note with another. A harmony in science, according to Lord Bacon, is the just adaptation of one part to another. The two parts of this subject, now joined together, make one harmonious whole.

You know that any two colours which, when combined, produce white light are called complementary colours. These two half-truths—the action of large doses and the opposite action of small ones—are the two complementary colours: their juxtaposition makes white light.

Hahnemann's homœopathy, I have said, is a half-truth. It is my privilege to-day to announce to you the other half-truth. I presume to think that the two halves make the whole truth, and that this will meet with your hearty acceptance.

The other half-truth then is this:—the action of small doses of drugs is in the opposite direction to the action of large doses. Therefore the law of Hahnemann, *similia similibus curantur*, remains true when limited to large doses; and the law of Galen, *contraria contrariis curantur*, is true when limited to the action of small doses; not true in Galen's sense, nor in any former sense put upon the phrase, but in a new sense, a sense which expresses a fact, and not a speculation.

VI. *A Law or Rule for the Dose.*

Some writers on homœopathy, as you know, have declared that a law for the dose is an impossibility. Such alarming prognostications lose a good deal of their gravity by repetition. I remember Dr. Lardner writing a pamphlet to prove that it was impossible for ships to cross the Atlantic by steam; and his pamphlet appeared just as a steamship reached America. Others have said that though a law may exist, the complexities surrounding it are so great, there is no probability that it can be discovered. Others again assert that "there is no necessary connection between the dose and the homœopathic law, the one exists quite independently of the other."[1]

On the other hand many laws have been suggested. I will not detain you by describing them; you will find them in Dr. Dudgeon's 'Lectures.' They all have one condemning defect—they are hypothetical or speculative, and not statements of fact. And, in the words of Dr. Dudgeon, "the rule for the administration of the appropriate dose remains yet to be discovered."[2]

After the outline of the experiments recently made on small doses of drugs, given in the preceding chapter, you will, I think, already see that the impossibility of there being a law has vanished; that the improbability of its being discovered has also disappeared; and that instead of there being no connection between the dose and the principle, the connection is so close that it is one of absolute dependency—the principle itself being dependent upon the dose.

The law of *similia similibus curantur* belongs to, or is dependent upon, the action of a certain range of large doses; while the law of *contraria contrariis curantur* belongs to, or is dependent upon, the action of a certain range of small doses.

In other words, the curative action of small doses in disease and their physiological action in health are identical. The tendency of the drug in the small dose is towards the same action, whether the organ it acts upon is in a state of disease or of health.

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[1] Dr. Black, 'Address at York,' 1872.

[2] 'Lectures,' page 560.

The rule to which it is my happiness to invite your attention to-day has already been given you in the facts contained in the last chapter. It may be thus expressed :—

When a drug is prescribed as a remedy for a diseased organ, upon which it acts when taken in health, and for the kind of diseased action which, in certain large doses, it can produce in health, the dose must be small enough to be within the range of an action in the opposite direction.

For example — doses of *aconite* above a certain quantity cause a feverish pulse; doses below this certain quantity retard the pulse. The larger doses are injurious, the smaller are curative. Only the latter should be prescribed as remedies.

And so it is with every drug. It is simply a matter of experiment in health to find out for each drug the dividing line above which its action is hurtful, and below which it is curative.

This, of course, will be a work of labour and care; but so is the proving of drugs at all; and so is the practice of medicine in any form. The advantage we have now gained is a clear perception of the work to be done, and how to do it.

You have now, I believe the law of the dose; that in every case the dose chosen should be within the range of the small dose action, which, be it remembered, is always, as a matter of fact, contrary to the large dose action; and claims to be the only legitimate heir to whom the maxim *contraria* of right belongs.

In the early part of this address two similes were used which may now be perfected. One was that of a chain. It was said that Hahnemann's homœopathy—the symptoms of diseases, and the similar symptoms of drugs—form two links at the opposite ends of a chain. These two links are, therefore, separated by intervening links, which have hitherto been concealed. The connection which plainly exists between the two end links was unexplained, and the law of *similia* was an empirical law. Two of these intervening links were then described, first, the seat of the disease, and the seat of the action of the drug are the same; and second, the kind of action of both are the same. It was promised that a third link should be described by and bye. This third link has now been exhibited to you; it is the opposition of the action of the small dose to that of the large dose. These three links make plain to reason the connection between the links at each end. We have now a completed series of causation, and the law which was empirical becomes rational.

The other simile was that of a triangular basis and a three-sided column erected upon it, with inscriptions on each side. This must now be enlarged into a hexagonal foundation and a six-sided pillar. The six sides have six principles engraved on them, to forget for the moment the historical order of their discovery, in the following succession:—On the first side "in poison there is physic." On the second side "identity of seat of action of disease and of drug." On the third "identity of kind of action of disease and of large doses of the drug." On the fourth "similarity of the symptoms of disease and those of large doses of the remedy." On the fifth "contrariety of the action of small doses and large ones." And on the sixth "the dose of the remedy must always be within the limits of this contrary action."

It may be asked, is there anything to guide our choice of a dose from among all those included within the range of the small dose action? This choice may be determined by reference:—

1. To the drug, and its primary and subordinate actions, *i.e.* to the organs in which these actions take place.

2. To the disease, and its special nature and susceptibilities.

For a drug to be a medicine it must have two actions in different doses: the action of the small dose must be contrary to the action of the large dose.

This suggests the idea that for the virulent poisons —such as *snake venom*, *arsenic*, *opium*, &c., for which no antidotes are yet known, the best antidote *may be* very small doses of itself. The only opportunity I have yet had of putting this thought (an hypothesis in the useful sense) to a practical test is in respect to mercury. In a case of poisoning by this metal the third trituration of itself (the millionth part of a grain) was manifestly beneficial.

The region of drugs as poisons in health, and as remedies in disease has been taken possession of. It is in part characterised by this—the hurtful action of drugs in health is perturbative; the curative action in disease is silent and peaceful. This is the geographical outline. The details are much "*terra incognita*" within, which need to be explored.

I am not prepared to enter into the investigation of the action of what are now familiarly known as infinitesimal doses. This part of the region is still mysterious. To a certain class of minds this mystery is its chief attraction. The haziness of its atmosphere renders it to them the valley of the enchantress, which has charms for such minds irresistibly attractive.

But I will offer one observation.—The action of really infinitesimal doses appears to be the converse of the action of the doses we have been occupied with to-day—one which is inappreciable in health, but perturbative, and sometimes curative in disease.

My brethren, I ought to have concluded long ago. Suffer me to offer you my respectful thanks for your prolonged attention. If I have succeeded in carrying your minds along with mine, or if you shall hereafter be brought to view these objects in the light which has been attempted to be thrown upon them to-day, the time and attention will not have been unprofitably spent, and the day and the place will have become memorable to you. Farewell!

June, 1873.

Since this Essay was written I have received the 42nd 'Report of the British Association for the Advancement of Science' for the meeting at Brighton last year (1872), which contains a 'Report on the antagonism between the action of active substances, by Thos. R. Fraser, M.D., Secretary to the Committee consisting of Sir R. Christison, Bart., Dr. Laycock, and Dr. Fraser.'

In this Report the results of experiments on the antidotal power of *atropia* (the active principle of belladonna) over the poisonous action of *physostigma* (Calabar bean) in rabbits and dogs are given. These results offer a confirmation to a certain extent of the conclusions drawn in this address as to the varied action of different ranges of doses of drugs. These experimenters found the limits within which sulphate of atropia can prevent the fatal effects of a lethal dose of physostigma. 0.005 gr. was too small, but "any dose ranging from 0.015 gr. to 5.2 grs." was sufficient. When the dose of physostigma was larger than the lethal dose, *e.g.* when *twice* the minimum lethal dose, the range was from 0.021 to 3.2 grs. When *two and a half* times the minimum, from 0.025 to 2.2 grs. When *thrice* the minimum, from 0.06 to 1.2 grs. And when *three and a half times*, from 0.1 to 0.2 gr. "Successful antagonism could not be obtained above this dose."

The conclusion of the Report contains an important statement:—

"An eminent authority in pharmacology has recently published the statement that the only method whereby the injurious action of a poison, absorbed into the blood, can be made to terminate is by the employment of such means as will cause or hasten the elimination of the poison. This statement, fortunately, does not accurately describe our remedial resources. The existence of so undoubted an example of physiological antagonism as that between atropia and physostigma shows that the toxic influence of a morbific agent *may be directly opposed by a physiological antidote*, and that recovery may be produced by influencing the abnormal conditions themselves, in such a manner as to cause their return to a normal state."

July, 1873.

ESSAY XXIII.

ON THE LAW OF THE DOSE.

"He (Boerhaave) well knew that to conjecture where certainty may be obtained is either vanity or negligence."
SAMUEL JOHNSON.

ESSAY XXIII.[1]

ON THE LAW OF THE DOSE.

"Facts and experiments are the only true foundations of accurate knowledge, and the latter particularly are very much wanted in medicine." WILLIAM ALEXANDER.
('Experimental Essays.')

THE letter on this subject by Dr. Kerr, of Cheltenham, published in the last number (Nov. 1873, page 722) of the *Monthly Homœopathic Review*, deserves grateful thanks. He says:—

"My suggestion is, that a committee of six or eight members be appointed to investigate Dr. Sharp's law of dose; that their experiments in the first place, be made absolutely as his were made, and as reported in the pages of your *Review*, and with the same medicines; that, afterwards, experiments be made with a wider range of dose and medicine; that every fact be scrupulously given, as he has given us, as to dates and hours, and size of dose, and subsequent symptoms; and that a report be made at the next Congress of the result."

Whether a committee can be appointed, which can carry out satisfactorily this investigation, may be doubtful; but it is to be hoped that, either in this or in some other manner, the experiments upon this subject will be carefully repeated.

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[1] First published in the 'Monthly Homœopathic Review' for Dec. 1873.

That the enquiry is an important one cannot be questioned. But it is not only important, it is delicate—so delicate that, without attention to minute circumstances, the experiments which may be made will fail to be followed by trustworthy results. It is obvious that experiments with small doses will require more care than corresponding experiments with large ones.

May it, therefore, be permitted me, in furtherance of this object, so suggest some precautions which it will be necessary to observe, to prevent a failure of the design?

Let me first briefly recapitulate the conclusions arrived at from a large number of provings, specimens of which were given in the address at Leamington in Sept. 1873. These were :—

The various doses of a drug, as regards their kind of action, are separated into two portions *by a dividing line.*

The doses above the line—the larger doses—have a kind of action which is *in the opposite direction* to that of those below the line—the smaller doses.

The action of the doses above the line is *injurious,* while that of those below it is *curative.*

Let these conclusions be fairly and carefully tested by the experiments of others—it is difficult to exaggerate their value in the future practice of medicine—and, to assist in this undertaking, let me be allowed to offer the following suggestions :—

1. Of course the experimenters must be in good health. The experiments will not be *provings in health* if this is not the case.

2. Each experimenter must be well acquainted with the condition of the several organs of his own body, and the manner in which their functions are usually performed. For example: the heart; the usual rate and character of the pulse; and its variations under such changes as standing, sitting, and lying down; and before and after meals and exercise.

3. There must be no probability of the existence of any influence remaining from medicines previously taken.

4. At the time of the experiment the prover's mind must be peaceful, as well as all his surroundings.

5. When the heart is the subject of the experiment, the condition of the pulse for some minutes before taking the dose must be accurately determined. The position also (mine was sitting) must not be changed till the experiment is finished. In these experiments I was always alone.

6. It must be borne in mind that variations in the effects of the doses may be expected to arise from the temperaments of the experimenters, from the antecedents of the experiment, and from different preparations of the drug. When fair allowances are made for these, and for any other influences which may be recognised or suspected, these provings, though not perfect, may be useful.

If all these reasonable conditions are faithfully observed, and all experiments rejected in which they have not all been observed, I believe the result will be a confirmation of the facts which it has been my privilege to announce. If the sick are benefited I shall be thankful.

ESSAY XXIV.

ANTIPRAXY.

"Every step the mind takes, in its progress towards knowledge, makes some discovery; which is not only new but the best too, for the time at least."

JOHN LOCKE.

ESSAY XXIV.[1]

ANTIPRAXY:[2]

THE CONTRARY ACTION OF DIFFERENT DOSES OF THE SAME DRUG IN HEALTH.

> "It cannot be doubted that, had we a more intimate acquaintance with, and precise knowledge of, the action of remedies, the therapeutic properties of medicines would no longer appear incomprehensible and mysterious."
>
> JONATHAN PEREIRA.

1. WHEN scientific medicine shall be generally adopted, specific names will not be needed. The disappearance of the necessity will be quickly followed by the disappearance of the names.

In the meantime, until this happy result shall be brought about, even scientific medicine is, in a certain sense, sectarian, and specific names are unavoidable. Under these circumstances a name must be given to the law which governs the actions of different doses of the same drug in health. It is now known that the action *in health* of a certain range of small doses is in the opposite direction to that of a certain range of large doses—that the one is contrary to the other—and it is proposed to call this contrary action antipraxy.

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[1] First published in 1874.

[2] ἀντίπραξις, counteraction.—PLUTARCH.

2. The changes in the phenome city, and magnetism, depend mainly of the force developed.

The changes in the action of th depend upon distance and quantity.

While those in chemical action quality and quantity; a different element being required in order to chemical affinity with other elements

Drug action resembles the last. effects are dependent upon quality a

Now, no settled principles we chemistry till *the balance* was caref Cavendish and others.

And if we would discover the action, and arrive at any hopeful administration of drugs as medicines, observe their qualitative action—th by each drug by itself, both in health we must undertake a careful inve action of different doses, or *quanti* drug, as well in health as in disea ments are important in mechanics, chemistry, so success in therapeut much upon doses.

The qualitative action of each dr a great extent, been discovered b health.

The quantitative action of differ drug has waited to be discovered ments with them in health.

This is the only way in which th on the question of doses can be te indescribable confusion in which it ha be reduced to order.

3. From the experiments on the doses *in health*, detailed in a form appeared that, in different doses each kind of action only, but two; and tha

of action are in opposite directions to each other. It will be useful to pursue the subject further.

The first consideration which arises is the question of *analogy*. Is the fact just stated a solitary phenomenon? or, is it supported and rendered probable by other operations in nature which offer points of analogy with this remarkable law of the dose?

Reflection will discover some analogous conditions.

It will have been noticed that one feature of the phenomenon is a dividing line. Of this we have a striking analogy or illustration in a magnetized steel bar. In this, it is well known, there is a neutral centre, from each side of which proceed magnetic forces, opposite in their tendencies, one force repelling what the other attracts.

The other feature of the phenomenon is, that a smaller quantity acts in one way, and a larger in the opposite way. Chemical affinity gives us some analogous examples of this:—oxygen and manganese combine in different fixed proportions; one equivalent of each forms a salt-making base—that is, an oxide which combines with acids to form salts; three equivalents of oxygen and one of manganese unite to make an acid—which combines with alkalies to form salts. No two things in chemistry are more opposite than a base and an acid. There are other instances, though this is not known as a general law of such combinations—at present it seems rather a rudimentary fact.

The action of heat furnishes more extended analogies. For example—a certain amount of heat effects the combination of some chemical elements, and a larger amount of it causes the decomposition of the compounds the smaller amount of it had produced. Here the making of compound bodies, and the unmaking of them, is due to the action of the same agent in different quantities. The two elements already mentioned are examples of this also; manganese and oxygen, with a moderate amount of heat readily unite and form oxides; and one of these oxides, when exposed to a greater amount of heat, is decomposed and oxygen is separated from it.

Another well known experiment with heat also offers a remarkable illustration or analogy. Half fill a long glass tube with water; reduce this to the temperature of 32° F. without agitation, when the water will remain liquid; give it heat very gradually, and the column of water in the tube will *contract*, and sink in the tube; it will continue to sink as the temperature rises, till this reaches 39° or 40°, when the water will be at its greatest density. (In this state it lies at the bottom of pools or rivers when the surface is frozen, and thus fishes are kept alive.) Go on supplying heat as before, and the water will now begin to *expand* and to rise in the tube, and will continue to rise till the temperature reaches 212°.

This action of heat in contrary directions when in different qnantities is said to be a general law governing all bodies which have a less specific gravity in the solid than they have in the liquid state.

Again, analogies are found in the action of electricity, *e.g.*, a current of electricity passed through water decomposes it into oxygen and hydrogen gases; a greater intensity of electricity causes the instant reunion of these gases, and the reproduction of water.

And, as magnetism, chemical affinity, heat, and electricity present phenomena analogous to the one under consideration, so also does light.

Through a minute hole in the window shutter let a ray of light enter a dark chamber; it will form a luminous spot on a piece of paper on which it is made to fall: through another minute hole, very near the first, let another ray enter, and in such a direction that this ray shall fall upon the same spot of the paper as that on which the first ray falls.

When there is a certain difference in the lengths of these two rays, instead of producing an illumination equal to the sum of their lights, which, *à priori*, would be expected, they destroy each other, and produce a *dark* spot.

These examples are sufficient to make it evident that the phenomenon of the opposite action of different doses of a drug, when taken in health, is not contrary to, but consistent with, the analogies of other departments of nature.

What drug force is I do not enquire. That it acts locally, and that, as with other agents in nature, different quantities of it act in contrary directions, I think there is sufficient evidence to prove.

4. Let us look again at this contrary action :—

The dividing line is not necessarily sharply defined. There are no abrupt divisions of this kind in nature. *Nihil per saltum* is a true as well as an old maxim. Such transitions are always gradual. "God divided the light from the darkness;" but the change from day to night is gradual. There is twilight between them. In like manner the three great kingdoms in nature—the animal, the vegetable, and the mineral—are separated from each other by very distinct characters; but these distinctions, as the individuals belonging to each kingdom approach each other, gradually disappear. The transition is so gradual that naturalists are not yet agreed as to which kingdom some of these beings of right belong.

It is thus with the two opposite actions of drugs. It ought not, I think, to be doubted that large doses of a drug act in one direction, and that small doses act in the opposite direction. But the change of the action from one direction to its opposite may be, not abrupt nor sudden, but gradual. For practical purposes it will be sufficient to know, with reference to each drug, what doses occupy the twilight, or take up the neutral ground between the two contrary actions. The way to attain this knowledge is by experiments in health.

5. The loss of power, by diminution of quantity in the dose, is not rapid but slow.

Sir Isaac Newton observed that the force of gravity does not diminish as rapidly as might have been expected. It was found that the different *distances* from the earth's centre of two localities, one at the bottom of a mine, and the other at the top of a mountain, is appreciable; but the *weight* of a body, taken from one of these localities to the other, shows no appreciable difference. He was led to think from this fact (while in his garden at Woolsthorpe), that gravity might extend much further than had been supposed, so that perhaps it might even reach the moon—200,000 miles—this he afterwards found to be the truth; and not only so, but that it reached to the sun—93 millions of miles—and even very much further.

Now a similar fact may be noticed in the action of drugs. The effects of the first, second, and third dilutions of them differ little from each other; that is, the difference is little compared with the difference in quantity between the hundredth, the ten-thousandth, and the millionth of a grain or drop of the drug.

It is permissible, therefore, to make the same reflection that Newton did, namely, that this action may extend much further than these divisions, before it is expended. Expended it must be somewhere, for everything which diminishes, even gravity itself, must come to an end somewhere. But the end of drug action, like that of gravity, may be much further off than can be easily believed.

There is a paper in the *Tatler* for January 14th, 1709, on the wonders then recently discovered by the microscope, in which this remark is made:—

"It is almost impossible to talk of things so remote from common life, and the ordinary notions which mankind receive from blunt and gross organs of sense, without appearing extravagant and ridiculous."

These reflections may be worthy of notice by those who shall undertake to pursue the task of proving the doses of drugs, with the intention of observing the different actions of different doses in health. The path is a new one, and of importance sufficient to interest and reward any number of labourers.

One of Sir Isaac Newton's discoveries has been referred to in this paragraph. It shall be closed by joining in one of his requests:—

"I heartily beg that what I have here done may be read with candour, and that the defects I have been guilty of upon this difficult subject may be not so much reprehended, as kindly supplied and investigated by new endeavours of my readers."

6. The law of the contrary action of different doses of the same drug is a paradox. But "there is a wide difference between a paradox and a contradiction. Both, indeed, consist of two distinct propositions; and so far only are they alike: for, of the two parts of a contradiction, the one or the other must necessarily be false—of a paradox both are often true, and yet, when proved to be true, may continue paradoxical. This is the necessary consequence of our partial view of things. An intellect to which nothing should be paradoxical would be infinite."[1]

The knowledge of the contrary action in health of the same drug in different doses is new to us, and strange—it is a paradox; it is not a contradiction. Both the propositions may be proved to be true, and the paradox will remain until some discovery is made which embraces both the propositions and explains them. "There are yet hid greater things than these!"

7. It has been objected to the law of contrary action that some drugs, such as silica, carbon, chalk, and some of the metals, have already been proved in small doses, and are prescribed homœopathically according to these provings. The answer is easy:—These drugs are inert, or nearly so, in their ordinary condition, and have no definite action at all until they have been minutely divided by trituration. These divided particles then occupy the place of the larger doses of other drugs; and it becomes necessary to prove still smaller doses in order to ascertain whether the law extends to them or not.

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[1] Bishop Horsley.

8. It has been objected that this contrary action of small doses, like Hahnemann's aggravation point, is not a fixed but a shifting basis, and as such cannot, any more than his, support the law for the dose. The reply is not difficult:—

The local action of drugs—organopathy—is the basis of the use of drugs as remedies on any system of therapeutics whatever. This is not a shifting but a fixed basis; so fixed that it can support any superstructure whatever.

The resemblance in the kind of action of large doses to that of diseases of the same organs which each drug can cure—homœopathy—is not a shifting but a fixed basis; it has supported a successful practice founded upon it for nearly three generations. This basis was discovered by qualitative experiments with drugs in health.

The contrary action of large and small doses—antipraxy—which has been discovered by quantitative experiments with small doses in health, forms a basis which corresponds exactly with that on which homœopathy rests. Reflection will show that they are alike; that one is not more shifting or less fixed than the other. As *similia similibus* supports the doctrine and practice of homœopathy in the choice of the drug, so *contraria contrariis* will support the doctrine and practice of antipathy in the choice of the dose. The investigation of antipathy, however, is reserved for another opportunity.

9. Men that are able to observe at all will not fail to observe that the attempt to learn the action of small doses, as distinct from that of large ones, by experiments with them *in health*, is a new undertaking.

They will observe further that, so far as experiments have been made on the subject, the action of small doses is *contrary* to the action of large ones.

And they will observe, lastly, that this is not a conjecture or hypothesis, but *a fact*.

10. It is not only possible, but it is to be hoped that further experiments may discover some wider generalisation. This may embrace the narrower one, but cannot destroy it. The *antipraxic action* of different doses of drugs in health is a fact which we shall do well to turn to practical use, without waiting for more extended discoveries, though these will be welcome when made.

In another essay the *antipathic action* of small doses shall be considered.

Dec. 18th, 1873.

ESSAY XXV.

WHAT IS ANTIPATHY?

"In all cases it behoves each and all of those physicians, who have the desire not only to *seem* but to *be* prudent and honest, to acknowledge and entreat the Divine Goodness, that from this they may look for wisdom and good fortune; and they ought not to be satisfied with simply giving health to the sick, but they should strive to add greater certainty to the art that they administer."

THOMAS SYDENHAM.

ESSAY XXV.

WHAT IS ANTIPATHY?

> "Errors, like straws, upon the surface flow;
> He who would search for pearls must dive below!"
>
> DRYDEN.

THE word Antipathy, *ἀντιπάθεια, ἀντι πάθος*, is here used in its medical meaning—against or contrary to disease, a remedy for a morbid state, a cure for sickness. It has been much used in a moral sense. Johnson defines it as "a natural contrariety to anything, so as to shun it involuntarily."

In consequence of this use of the word, some writers have introduced another word, also of Greek derivation —enantiopathy; but the old word, in its old meaning, is to be preferred.

The antipathic maxim is expressed in the words:—

"*Contraria contrariis curantur.*"

There is no counterfeit without a genuine original. There is no misrepresentation or perversion which has not in it some truth which it misrepresents or perverts.

It is good to detect and discard counterfeits, and to preserve only what is genuine. It is still better to get rid of misrepresentations and perversions, and to hold fast truth only.

Let us see if it is possible to discover the truth

England. The former attributed all ailments to a phlegmasie of the mucous membrane, to gastrite and enterite, and the latter to inflammation of the brain. Bleeding, purging, and mercury were the acknowledged contraries of these inflammations. They were, therefore, called antiphlogistics; they were helped by other remedies under the title of refrigerants.

The first of these, the taking away of blood from the patient, is a proceeding so singular, so important, and till now of such universal prevalence, that it demands some special notice.

With Sydenham the "inflammatory diathesis" was often uppermost in his thoughts. This was to be dealt with by bleeding. Emetics were to follow the bleeding. When the blood "goes on boiling," enemata and purgatives are to follow—and bleeding again.

In John Hunter's time, about a century later, the fashion had changed, and bleeding was less frequently performed. In his lecture on "adhesive inflammation" he gives very careful rules and suggestions for the practice of venesection, and concludes with these words:—"Bleeding, however, is a remedy of so much importance that it should be employed in all cases with great caution."[1]

In my early days the fashion had revived, and bleeding was again in vogue. The picture is drawn in lively colours by Dr. Mason Good. What Sydenham calls "giving ourselves up to the luxury of guesswork" was largely indulged in by the eminent men of that time.

Dr. Clutterbuck bled his patients in typhus fever, upon the principle of attacking the inflammation of the brain and *debilitating* the action of the living fibre!

Dr. Armstrong, in certain cases of typhus, bled to *prevent* debility. In these cases he says "the strength is depressed, but not subdued, and venesection by diminishing or removing local disorder, diminishes or removes the load which impeded the vital functions, and the strength is therefore increased instead of being diminished"![1]

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[1] 'Works of John Hunter,' by J. F. Palmer, Vol. I. p. 405. 1835.

Dr. Jackson thought he had found a sufficient reason for bleeding in its *stimulant* action upon the system. Venesection, according to him, "acts not by debilitating, or even by preventing debility, but directly by *invigorating* the living fibre; and in this view he employed it in fevers of every kind, entonic and atonic, inflammatory and putrid, and in his own belief with nearly equal success"![2]

Every practitioner bled his patients, whether he had a reason for doing so or not. The practice is discontinued. The reasons were hypotheses, not facts. They are forgotten, like straws floating down the stream and disappearing.

At the present time no one bleeds. Sir Thomas Watson labours to preserve its use "for some special morbid conditions," in which "venesection is a potent and life-preserving remedy; in which it is not only safe to employ, but unsafe and unpardonable to withhold it." The condition intended is "that of great and often sudden engorgement and distension of the vessels that carry black blood—of the systemic veins, of the pulmonic artery, and especially the right chambers of the heart." This condition is one of unequal distribution of blood in the two different systems of vessels; when the accumulation is of purple or black blood in the veins or pulmonary artery, it should be called *congestion;* when it is of bright red blood in the arteries or pulmonary veins, it is *inflammation.* In the embarrassed condition of the circulation, spoken of above, "it is the veins that require emptying, not the arteries."

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[1] 'Practical Illustrations of Typhus,' by John Armstrong, M.D., p. 135. 1816.

[2] 'The Study of Medicine,' by John Mason Good, M.D., F.R.S., Vol. II, p. 254. 3rd. Ed. 1829.

Provided that no better remedy can be found for this state of congestion, I think Sir Thomas Watson's reasoning is just, and his advice good. If better means of relief can be found, then the painful necessity for bleeding is done away with. The provings of drugs in health ought to supply these latter remedies. This has been done already for some congestions, for example, congestion of the brain; *opium* is a better remedy for congestive apoplexy than bleeding.

It is interesting to learn from Sir Thomas Watson how entirely the practice of bleeding has ceased in London. He says:—"I remember the time when a surgeon who found a man lying in the street in a fit, was blamed and abused by the bystanders if he did not at once open a vein in his arm. To do this now-a-days would be to incur the charge of murdering the man. . . . . I have heard of a London physician who, being desirous of having one of his hospital patients bled, could find no one among the house surgeons and advanced pupils who had ever seen the small operation of venesection done, or knew how to do it; and of another who, wishing on some rare occasion to prescribe leeches, had forgotten, through long disuse of them, the Latin name of the little blood-suckers. The trade in leeches has dwindled to a miserable fraction of its former magnitude; and the art of cupping, and the once thriving and useful race of cuppers, are extinct."[1]

It happened that Mr. Mapleson called upon me about a year ago, (whose father was cupper to George IV., and who realised a handsome fortune by his occupation), and he told me he had left London for some years, and sought employment in other ways; for the reason that in the last two years of his practice he had cupped only two patients.

The next great antiphlogistic remedy, during these glorious and enthusiastic days, was a purgative. In the words of Dr. Mossman, "Bleeding and purging;

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[1] 'Lectures on the Practice of Physic,' by Sir T. Watson, Vol. 1, p. 247. Fifth Ed. 1871.

these are the infallible agents in the cure of fever."[1] In these kingdoms the universal practice of giving aperients was very much brought about by a book published in the beginning of the century. "The world," said Dr. Armstrong, "is greatly indebted to Dr. James Hamilton, senior, for having so firmly established the usefulness of aperient medicines by the publication of his work,[2] than which none, perhaps, of greater value has appeared in the medical republic since the days of Hippocrates!"[3] The world is still more indebted to homœopathy for rescuing it from this treatment.

The remaining remedy, which was as unremittingly used as bleeding and aperients, during the reign of the antiphlogistics, was *mercury*. By many practitioners calomel was given merely as an aperient; but thoughtful men began to observe that its specific action in inflammation and fever was beneficial. Among those who noticed this was Dr. Armstrong. For a long time he gave calomel freely as a purgative. "But," he says, "cautious and reiterated observations have at last convinced me that, next to venesection, it is one of the most powerful anti-inflammatory agents with which we are acquainted. It will be found that few patients perish in inflammatory diseases, where ptyalism is clearly established. In general terms, inflammation may be denominated a loss of balance in the circulating system, and *calomel, having a direct power in equalizing the circulation*, is a most suitable remedy for that affection."[4]

This view of the action of mercury was enlarged and became general. John Hunter had said that "there is no specific against inflammation that we are acquainted with."[5] It was beginning to be thought that a specific had been found in mercury. The following is a long extract from one of Sir Thomas Watson's Lectures, but it is interesting:—

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[1] MS. Notes on Cullen's 'First Lines.'

[2] 'Observations on the Utility of Purgative Medicines.'

[3] 'On Typhus,' by Dr. Armstrong, p. 111.

[4] Armstrong on 'Typhus,' p. 141–2.

[5] 'The Works of John Hunter, F.R.S.,' by J. F. Palmer, Vol. 1, p. 401. 1835.

"Formerly it (mercury) was regarded as 'a very powerful agent (I am quoting myself[1]) in controlling inflammation, especially acute phlegmonous, adhesive inflammation; such as glues parts together, and spoils the texture of organs.' Again, 'the great remedial property of mercury is that of stopping, controlling, or altogether preventing the exudation of coagulable lymph; of bridling adhesive inflammation; and (I added) if we in our turn could always bridle or limit the influence of mercury itself, it would be a still more valuable resource.' Acknowledging that, like most other remedies, it could do harm, as it could do good, I said it behoved us to 'learn how to wield a very potent but a two-edged weapon.'

"This estimate of the special properties of mercury can no longer be maintained in the full and unqualified sense of the words which I have just cited, and which expressed, I believe, at the time when they were used, the general opinion of the profession. They were too absolute. . . . . .

"When mercury is gradually introduced into the human body in small quantities it produces sooner or later very remarkable effects. It *causes* inflammation. Perhaps it may be for that reason that the professors of homœopathy prescribe 'mercurius' so often."[2]

This testimony is remarkable. "Mercury *causes* inflammation.' (The italics are Sir T. Watson's.) Homœopathists have given it in inflammation, but not indiscriminately in every inflammation, (as was done by others at the time of Dr. Watson's early lectures), but only in inflammations of *certain parts*, upon which parts mercury acts, and in health produces inflammation. The profession has learned this lesson. Homœopathists have given mercury in doses too small to cause the mischiefs Dr. Watson acknowledged. They have learned how "to bridle and limit the influence of mercury," so that with them it is *not* "a two-edged weapon." When will the profession have learned this lesson also?

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[1] From the 'Lectures' of former years.

[2] Sir Thomas Watson's 'Lectures,' Vol. 1, p. 261. Fifth Ed. 1871.

The antiphlogistic notions were universally received, and enthusiastically maintained. They are now nearly forgotten. They have floated away like straws, and are lost.

4. Antipathy does not consist in prescribing *antispasmodics*. This term, like antiphlogistics, is a modern one. It has reference, mainly, to Dr. Cullen's "spasm of the extreme vessels," or capillaries. The notion is thus announced by him:—

"Our doctrine of fever is explicitly this: the remote causes are certain sedative powers applied to the nervous system, which, diminishing the energy of the brain, thereby produce a debility in the whole of the functions, and particularly in the action of the extreme vessels. Such, however, is at the same time the nature of the animal economy, that this debility proves an indirect stimulus to the sanguiferous system; whence, by the intervention of the cold stage and spasm connected with it, the action of the heart and larger arteries is increased, and continues so, till it has had the effect of restoring the energy of the brain, of extending this energy to the extreme vessels, of restoring therefore their action, and thereby especially overcoming the spasm affecting them; upon the removing of which, the excretion of sweat, and other marks of relaxation of excretories, takes place."[1]

Dr. Mossmann's commentary on this statement is all that need be said of it:—"It is sufficiently evident that the basis of this system is purely hypothetical."

This comment was written nearly sixty years ago. It has been entirely confirmed by others. The straw has floated away, and is forgotten. If it be asked, what were Dr. Cullen's antispasmodic remedies? they were bleeding, aperients, abundance of cold water, neutral salts, emetics, blisters, warm bathing, and the antiphlogistic regimen. From which it appears that the change brought about by the eloquence and influence of Cullen, as a teacher, was speculative rather than practical; that it consisted in the invention of a new hypothesis—not in the discovery of new facts, nor in the introduction of a new method of treatment.

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[1] 'First Lines of the Practice of Physic,' by William Cullen, M.D. 1784.

5. Antipathy does not consist in giving *stimulants.* Let us, once more, spend a few moments on the meaning of words. What is a stimulant? Originally, *a pricking instrument* in Latin, from *to prick* in Greek; in English medicine, a thing which increases vital action. But the word has been used so vaguely and hypothetically that now it has no definite meaning. According to Cullen debility is a stimulant; according to others all curative action of medicines is stimulating: so that small doses of aconite, which diminish the action of the heart, and small doses of digitalis, which increase it, are both to be called stimulants. Nothing but confusion and controversy can exist when words are lost in a fog like this. To me *stimulants* are alcohol and its similars, and nothing else. These are a class of substances distinct from food and from drugs. In this Essay "Antipathy" is restricted to the action of drugs; so that alcohol, as a stimulant, does not claim mention, or come within its scope. But for the same reason that bleeding was noticed as an antiphlogistic, some notice must be taken of alcohol as a stimulant.

Brown, a pupil of Cullen, discovered no new facts but, like Cullen, invented a new hypothesis. He also brought about a great change in practice, which Cullen had not done. His notion that diseases were either *sthenic* or *asthenic*, and nearly all of them the latter, encouraged him to give stimulants, that is, wine and spirits, almost without limit.

This practice, however, disappeared, the straw to which it was attached floated away, and the use of antiphogistics again became universal. These depleting and lowering measures were triumphant in my early professional life. I well remember the startling effect produced by the first paper which once more revived the stimulating practice. It was an article in a Dublin journal,[1] in which cases of fever were reported as having been successfully treated with wine. It was as if a shell had been thrown into the ranks of the profession, and had burst in the midst of them. By-and-bye the fashion set in like a rising wave, and Dr. Todd's boat rode in triumph on the crest of it.

What is further to be said upon this subject shall be told in a story, for the authenticity of which I can vouch, though I did not myself see the patients. A short time before the Dublin cases were published there was an epidemic of low fever in Bradford. One of these cases, a young woman, was believed by her friends, and by the medical man who was attending her, to be dying. One Mr. John Hepworth, an unqualified practitioner of great notoriety in the town at that time, was sent for. He gave the dying woman brandy, and she recovered. Shortly afterwards a sister of this young woman fell ill of a similar fever, and the parents, naturally thinking that the attendance of the qualified doctor might be dispensed with, sent at once for Mr. John Hepworth. He gave her brandy also, and she died. The story goes on to say that Mr. John Hepworth, after the successful issue of the first case, wrote in his note book:—"Brandy good for fevers"; and that, after the death of the second, he added:—"But not always"!

In the administering of stimulants we should, I think, be guided by considerations very similar to those which we follow in the giving of food, namely, the condition of the patient, rather than the nature of the disease.

Antipathy, therefore, does not consist in alcoholic stimulants.

6. Antipathy does not consist in the use of drugs

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[1] By Dr. Graves: who wished that this might be recorded on his tombstone "He fed fevers."

considered as stimulants. Moderate supplies of food nourish and strengthen the living body. Moderate supplies of fermented and spirituous drinks refresh and exhilarate it. The action of drugs is something else; something quite distinct from the action of food, and something quite distinct from the action of fermented drinks. We do not speak of moderate supplies of drugs being good for any thing in health. We think of medicines only when we are *not* in health. Supplies of them in health in any quantities whatever, great or small, act only injuriously. The action itself, therefore, must be a different action from that of food, and from that of fermented drinks, and the use of the same word to express both actions leads to confusion and error.

For another reason the word "stimulant" as applied to the action of drugs is objectionable, which is this, even if it seem a suitable word in some cases, it is absurd in others. If it seem proper when used with reference to the contraction, by a dose of medicine, of a dilated pupil, or a dilated bloodvessel, how can it be applied to the soothing effect of another dose of medicine given for a muscle in cramp or for a nerve in pain?

For another reason, again, it is unbecoming in us to use it, because it implies that we understand how the action of a drug is brought about, which we do not. It is contended, therefore, that the use of the word "stimulant" in reference to medicine should be discontinued. The word is a straw upon the stream, and the sooner it floats away and is forgotten the better.

7. Antipathy is not the giving of *astringents for diarrhœa*, or *purgatives for constipation*. The antipathy we are in search of excludes the use of large doses of drugs for any purpose, and, therefore, necessarily for such purposes as these.

8. Antipathy is not *either the primary or the secondary action of drugs.* It has been noticed in a former Essay[1] how much Hahnemann differs from himself in

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[1] Essay XIII.

the opinions he expresses on the action of drugs. He speaks of the direct and indirect action; of the positive and negative action; of the primary and secondary action. These he afterwards represents as alternating actions. Finally all are given up. The straws floated away from his sight, and were lost in his own lifetime.

The opinions of Hahnemann's successors are industriously reported by Dr. Dudgeon (in Lecture VIII). The views thus represented are many, very diverse and often contradictory. The meaning intended to be given to the word "antipathy" in this Essay, is not given by any of them.

To this head belongs a passage in one of the Lectures of Professor Fletcher of Edinburgh, which has been referred to as anticipating the facts stated in the Leamington Address (Essay XXII). This is the passage:—

"Hahnemann is quite aware of this two-fold action of medicines, and it is to insure their *primary*, without fear of their *secondary* action, that he inculcates the expediency of giving them in inconceivably small doses. But it is absurd to say, as he at the same time does, that medicines in such doses operate by producing a stronger impression than that produced by the disease. They cure it not by the *stronger* but by the *opposite* impression which they make; so that homœopathic medicines, after all, operate on the antipathic principle." What Dr. Fletcher means by these expressions he goes on to explain as follows:—"If we choose to represent the ordinary irritation [!] of the vessels of the iris by a longitudinal [vertical] line, say an inch high, it is easy to conceive certain substances capable of raising it to an inch and a half; but this height, as it cannot be maintained, after a time is reduced spontaneously through double the space that it had been raised, *i.e.*, falls as much below an inch, as it had before been raised above it, or to half an inch; and what are the substances now called upon to effect, but what they effected at first, namely, to raise the line of action half an inch, [this is reviving the mechanics of the old iatromathematicians,] the result of which is now health, as it was before disease?"[1]

It is very plain here that whatever becomes of me, Hahnemann goes to the wall. Of the two hypotheses it is certain that Dr. Fletcher's has the most verisimilitude about it. But that they both *are* hypotheses is sufficiently proved by the explanation which is given, and which is so "easy to conceive." How variable and how vague the expression "antipathic principle" was in Dr. Fletcher's days, and in his school of medicine, has been shown in the earlier part of this Essay.

9. Antipathy is not *the reaction of the vital force against the action of drugs.* In mechanics we are familiar with the law that action and reaction are equal, but in contrary directions. No such law is known in physiology or therapeutics. Some vital phenomena offer a resemblance to this mechanical behaviour, but they are, in fact, widely different from it. We do not know the ratio or law which governs them, but it is certainly not the same as that which governs mechanical reaction.

10. Antipathy is not *an explanation of the manner in which drugs act.* In respect to the manner of action of drugs we are in total darkness. And we are so blind that the darkness is not felt. Knowledge of this kind cannot be attained. It is labour lost and time wasted to go in search of it. True, hypotheses may be easily conceived; so may straws be gathered from the surface of the stream. But what are either of them worth? There is this difference between them: straws may amuse children, hypotheses are sure to mislead physicians.

We have carefully examined the counterfeits; let us try to find the genuine coin. Or, to keep up the simile of the Essay, having seen the straws float away, let us now dive in search of the pearl. We ask again :—

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[1] 'Elements of General Pathology,' by John Fletcher, M.D. Edited by Drs. Drysdale and Russell, p. 491. 1842.

What is Antipathy?

11. Antipathy is antipraxy[1] applied to disease. It will be remembered that antipraxy is the contrary action of small doses to that of larger doses, in health. Antipathy is the contrary action of the same doses in disease. Many examples and proofs of this action, both in health and in disease, have been given in former Essays. The following experiments are additional illustrations.

It is well known that the extract of belladonna applied to the eyebrow dilates the pupil. A few drops of the pure tincture (two are sufficient on me) will do so also.

To learn whether there is any dose smaller than these, which will contract the healthy pupil, the following experiments have been tried :—

One drop of the tincture of belladonna was added to ninety-nine drops of water, that is, one part in a hundred—the first centesimal dilution—in water to avoid any interfering action from alcohol; and the right eye was rubbed with this in the usual way, but no effect could be perceived.

Afterwards one drop of the tincture was added to nine drops of water, one part in ten—the first decimal dilution—and this was applied in the same manner; again no effect could be noticed.

Then a drop was added to four drops of water, one part in five, and applied. This experiment succeeded. A perceptible contraction of the pupil was produced.

These experiments were tried many months ago. To-day (March 19th, 1874) at noon, the last-mentioned experiment has been repeated. Two drops of tincture of belladonna were added to eight of water. Small portions of this dilution were rubbed over the eye at intervals during half an hour. At the end of this time, in the judgment of another, who knew nothing of the experiment I was trying upon myself, the pupil was slightly contracted, it was less than that of the other eye. Afterwards the remainder was rubbed over the same eye, at intervals during another half hour, when the same observer noticed a slight dilatation of this pupil, it was now larger than the other. This dilatation afterwards increased considerably, and had not disappeared on the following morning.

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[1] See last Essay.

That belladonna contracts a dilated pupil in illness is known.

Here are the two actions of drugs. The powerful and injurious action of the large dose; the comparatively slight, but equally true action of the small dose, in the contrary direction, both in health and in disease. It must be borne in mind, in all experiments with small doses, that the effects are feeble in comparison with the effects of large doses. They are less in degree, and they are contrary in kind. Hence their value as medicines.

The Calabar bean (physostigma) has an action the reverse of belladonna, but not so powerful. A larger dose is required to produce the effects, judging from the tincture which has been used in my experiments, and which was furnished, along with the tincture of belladonna, by Mr. Turner.

In the first experiment two drops of tincture were added to eight of water, (the dose which had succeeded with belladonna), but after rubbing this over the eye and temple no effect was noticed.

In the second, four drops of tincture and four of water were rubbed in, but without appreciable effect.

In the third, five drops and five of water were used, and a very slight dilatation was perceived.

On another day, one drop of the pure tincture was rubbed in, and very soon a decided dilatation was produced.

When ten drops of the tincture are rubbed in, after about an hour the pupil becomes very much contracted.

These experiments with belladonna and Calabar bean are visible illustrations of what is meant by *antipraxy*. They differ from the former experiments in being local actions produced by the topical application of drugs, not by their internal administration. But they are confirmatory proofs of the induction drawn from the reverse actions of aconite and digitalis upon the heart, and from those of other drugs upon other organs.

Antipathy, then, is the small dose of antipraxy given in sickness. It arises out of, and is dependent upon the contrary action of small doses and large doses in health. It is the necessary sequel. As the action of the larger doses in health is a guide in the choice of the medicine—which is homœopathy—so the contrary action of the smaller doses in health is a guide in the choice of the dose—which is antipathy.

12. This antipathy is *learned by experiments on the healthy, not on the sick.* After having been learned by experiments on the healthy, it is carried out in practice when prescribing for the sick. The antipraxic dose of a drug must be found out in health, and then it may be given with confidence as the proper dose in disease, even if the drug has never been given as a remedy before. The experiments with belladonna make this exceedingly plain.

Doses, like medicines, must be learned by experiments of some kind. Up to the present time these experiments have been made by homœopathists, as well as by practitioners of the old school, upon patients. It is contended that they ought to be made upon ourselves. Difficulties and objections of all kinds will be raised against this, there will be many lions in the way, but it ought to be done; and the sooner medical men undertake the work and do it, the better will it be for their patients. Why not try?

13. Antipathy is *a general fact.* This may be shown clearly by the following considerations:—Numberless recoveries from illness, both acute and chronic, have followed the administration of small doses of medicine, given according to the law of homœopathy. This is

known to all. Homœopathists believe that in many of these cases the doses have acted curatively. Experiments on myself and on my friends have proved to me that small doses taken in health act in the contrary direction to that of larger ones. This conclusion is an induction from known particulars applied to others that are like them, in reliance upon the known uniformity of nature. It gives a law or rule to therapeutics in reference to the selection of doses. The reasoning can scarcely be objected to. If the facts from which the induction is drawn be thought doubtful, the reply is, why think? why not try the experiments?

14. Antipathy is *a practical fact*. It is not a guess, conjecture, or hypothesis. Take as an example the experiments with belladonna on the pupil. A large dose dilates it; a small dose contracts it. This is in health. You have a patient with a dilated pupil; the small dose which contracts the pupil in health is the proper dose to contract it in sickness. The action in health is called antipraxic; the same action in sickness is called antipathic. It may be said, if this be so, the large dose of belladonna will be a good remedy for a contracted pupil. This is denied. It is the action of the small dose which is curative. The action of the large dose is injurious. Another drug must be sought for the contracted pupil, and it is found in physostigma (Calabar bean); the action of which is exactly the reverse of belladonna.[1]

15. This antipathic action *belongs to drugs only*. In Essay VI several reasons are given which seem to prove that the law of homœopathy is limited to the action of drugs only. It will be seen now that the

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[1] In the present state of our knowledge belladonna must still be used to dilate forcibly the pupil, previous to operations for cataract; and also to tear away adhesions of the iris in some forms of inflammation of that organ. These proceedings, and any others of a similar kind, are necessitated by our defective knowledge, and do not prove the doctrine of antipathy to be erroneous.

contrary action of small doses is a powerful additional reason. This peculiar property of small doses is not found as a characteristic of the other agencies which Hahnemann included along with drugs, as forming part of his Homœopathy. No phenomena are known which show that small quantities of light, heat, electricity, or magnetism act upon living bodies in an opposite direction to the action of larger quantities. Different quantities may and often do act in a *different* but not in a *contrary* manner. Nor have we any facts to show that the action of diseases upon each other, or the action of mental phenomena exhibit a similar peculiarity; indeed, it is hard to think that in either of these actions this is possible.

In the preceding Essay, on antipraxy, it is proved that light, heat, electricity, magnetism, and chemical affinity have actions in the inorganic world which are parallel with or similar to the action of drugs on living bodies; but, so far as our present knowledge goes, they have no actions like them in the organic world.

16. Antipathy, as the word is used in this Essay, is *simple and intelligible.* So simple and intelligible that even some of those who oppose it cannot but admire it. "There is a charming look of consistency," says Dr. Hayle, "in the idea of fixing the dose of the remedy by experiments on the healthy, as well as its sphere and kind of action, and one feels as if it *ought to be true.*" After this strong testimony in its favour, the objections brought forward by Dr. Hayle need not give trouble. He has told me that they were hastily written, and it may be hoped that his own further reflection will remove them.

17. In the first Essay, written in 1852, it was said:—"Homœopathy is a guide in the choice of the medicine, not of the dose. The dose is, as yet, a question of experience. The law of similia is an admirable guide in the selection of an appropriate remedy in any case of disease; but the only information it affords in the choice of the dose is this, that it must be a *smaller* one than would be sufficient to

produce similar symptoms in health. *How small* a dose this is must be ascertained by trial, until some general fact or law can be discovered, which shall constitute a guide to the dose, as the law of similia does to the medicine. I venture to entertain a sanguine hope that this will be accomplished." This hope is now fulfilled.

Experiments with large doses of drugs in health teach us—1. The organs where the action takes place. 2. The kind of action carried on there. 3. The symptoms by which the action is manifested. By the rule of *similia similibus curantur* we learn how to choose the drug. Experiments with smaller doses of the same drugs in health teach us where the contrary kind of action begins. By the rule of *contraria contrariis curantur* we learn how to choose the dose.

18. A reason can now be given for homœopathy :—

It is known by their personal experience, that is, by experiments upon themselves, by many intelligent medical men, that, in certain comparatively large doses, drugs taken in health produce symptoms which bear a strong resemblance to natural diseases, that is, to diseases arising from other causes.

It is equally well known to a much larger number of medical men that these drugs, in certain comparatively small doses, act curatively in diseases which resemble those produced by the larger doses of the same drugs.

The knowledge of these two facts is practically acted upon every day. The practice is called homœopathy, and the maxim which expresses it is that "likes are cured by likes."

Hitherto this has been done without knowing the reason why. Experiments in health with the smaller doses of drugs have, I think, proved that *their* action is contrary to that of the larger doses of the same drugs. This contrary action is called antipraxy, its maxim is that "contraries are cured by contraries ;" and it gives the reason why the practice of homœopathy is so successful. Surely this piece of knowledge is a pleasant gain. It not only shows that homœopathy lies within the province of reason, but makes i one of the most reasonable things in the world. I not only declares it to be within the grasp of commo sense, but places it before the physician as the plaines rule he has to follow, the most common-sense duty he has to perform.

19. A reason can also be given for antipathy. The action of small doses being contrary to the action o larger doses in health, and these smaller doses being given for diseases similar to those produced by the larger ones, it follows necessarily that this action o small doses is contrary to the action going on in the diseases for which they are given; this is the reason why they are often such successful remedies. That they do cure many diseases is manifest, and this is the reason why they cure. The natural action which they have in health is carried with them when they are given in disease. They take no cognisance of the condition of the organ which appropriates them, bu having power to act in a certain direction, effect corresponding to the state of the organ are produced if this state is a healthy one, disturbance takes place if it is a diseased one, the same action may bring abou a cure. The experiments with belladonna on the iri are a visible proof of this; and thus antipraxy answer the question why, whether asked of homœopathy or o antipathy.

20. These facts—the action of large doses in health the cure of similar diseases by small doses; and th reason of this cure given by the action of small dose in health—are, to my mind, eminently plain an satisfactory. The same processes of observatio experiment, and reflection may make them equall plain and satisfactory to others. But such must d the work for themselves. I cannot do it for them In the meantime the objections suggested by mer reasonings are just as irrelevant and useless as ar the objections which have so long been raised agains homœopathy by those who will not try the practic in their own hands. The homœopathists are now

challenged in the same way that they have challenged the allopaths.

The pearl has been dived for and sought after with much diligence. It is believed that it has been found and brought to light. It is respectfully presented to every medical man who will courteously accept it. The value of the pearl to each will depend upon the amount of pains which he takes in examining it for himself, and in appropriating it to his own use.

In conclusion, a few brief remarks may be offered upon the criticisms, objections, and difficulties which have come to my knowledge since the Leamington Address (Essay XXII) was given in September last.

21. The 'British Journal of Homœopathy' (for Oct., 1873) has a notice of the Address very remarkable for the confusion of thought which pervades it. Among many things which may be passed by, it suggests, in the form of a query, that the contrary action of small doses in health as a law or rule for the choice of the dose is "but another of the many guesses on the subject which experience has consigned to forgetfulness;" and at the same time it insists that it has been anticipated by others, especially by Dr. Fletcher of Edinburgh, and by Dr. Reith of Aberdeen.

Dr. Fletcher's paragraph has been given in a former part of this Essay. Dr. Reith's papers shall now be noticed. The truth is that we do not come into collision. Dr. Reith's investigations have been carried on in the sick, mine have been in the healthy. To show this it will be sufficient to quote the title of Dr. Reith's Papers, and a short sentence from one of them:—The articles are 'On the Therapeutic Action of Medicines *in Dilated Conditions* [not healthy conditions] of the Bloodvessels.'[1] And in the first of them he says, "We shall have to enquire what is the therapeutic *dose* of each medicine. . . As already stated, this can only be done *by experiments on diseased nerves.*" His conclusions are drawn from experiments in disease—mine are the results of experiments in health. There could not be a greater difference between two methods than this. When Dr. Reith's facts and mine are the same, we are two independent witnesses to them; inasmuch as we have arrived at our knowledge of them by different paths. When Dr. Reith uses hypothetical expressions they are his own property, and he alone is entitled to them.

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[1] 'Edinburgh Medical Journal,' Feb., April, and September, 1868.

Perhaps it should be added that our views of the medicinal use of digitalis differ. This also seems to be accounted for by the difference in our methods of studying the drug. Dr. Reith says:—"For a rational explanation of the action of digitalis it is unnecessary to bring forward any new facts beyond those already known." His conclusions, therefore, are drawn from the observations of others: mine are the results of experiments on myself.

These remarks are offered in the interests of the sick, and in the cause of truth only. They are not intended to disparage or criticise Dr. Reith. God forbid that I should wish to rob any one, whether predecessor or contemporary, of any credit, be it much or little, to which he is entitled. Especially ought this to be said of any one digging in the same mine, or diving in the same waters, with myself.

22. It has been said to me: "You are the solitary individual who believes that the action of small doses in health is the contrary to the action of large doses, at least to the extent of its being a general fact." At present, then, I must be content, though sorry, to be the sole possessor of the pearl. Those, however, who reject it gain nothing, either for themselves or for me, by objections of reasoning alone. Whatever is stated as a fact upon *evidence*, can be rebutted only by stronger *evidence* against it. To obtain this evidence others must repeat the experiments which prove it to me, with similar care. If these new experiments give

results the same as mine, then, I suppose, each prover will believe his own evidence. If they give different results, then it will appear that there is something wrong either in their evidence or in mine. Should this happen, it will be necessary to repeat the experiments with still greater care, so as to learn, if possible, what is the truth in the matter.

It will facilitate this investigation if all extraneous subjects be carefully excluded from it. The old difficulties of primary and secondary actions of drugs, the actions of drugs and the reaction of the vital force, and other similar questions, are really quite foreign to this enquiry.

23. Again, to impress me with a deep sense of the extreme difficulty of obtaining satisfactory results in the proving of small doses of drugs, and of the great probability that I have been deceiving myself, the following proving of nothing has been kindly sent me:—

"I have made on myself the following experiment. I have sat for the best part of an hour watching myself when in my usual (rather indifferent I must grant) health, and with the following result: My pulse has varied greatly; pains have come on in several parts of my body; I have had vague feelings of apprehension; nausea; palpitation of the heart; flatulence; vertigo; salivation; dry mouth; *choking sensation in the throat.* Had I taken medicine in any size of dose I should have found it difficult not to conclude that the symptoms were caused by the medicine."

Here is a regular fit of "nerves," which Sydenham would have called "hysteria in the male." It certainly shows that many provings may be looked upon with suspicion; but it does not show that no provings are of value. It compels me to say that I went through several careful "provings of nothing," and many other observations upon myself, before undertaking the trial of small doses of drugs. Notwithstanding the series of symptoms so well reported above, I have no doubt of the truth and general accuracy of the provings given in the Leamington Address. The case of "nerves" is matched, as some of my readers may remember, by the experiments made upon a lady with two bars of steel, one a magnet, the other not, which was recorded in Essay VI.

24. Again, it is said to me: "You have not yet got so far as to have your deductions [induction] taken into account and criticised. Your colleagues have not got further than your facts, and as to them, they are not convinced." They must convince themselves. But they may be reminded, as their opponents of the old school were reminded twenty years ago, that if they will not look through Galileo's telescope, they must not expect to see Jupiter's moons.

25. Another objection has been put forth at which I cannot but marvel. It is said that many diseases have no contraries, so that this rule for the dose is "only workable in a certain narrow sphere." This objection betrays a strangely perplexed state of mind. It might be inferred from this objection that antipraxy had been put forward as a rival of homœopathy, or a substitute for it. But surely it is most plain that this is not the case. A rule for the *dose* says nothing about the *remedy*. Homœopathy is a rule by which to choose the remedy; but, as was remarked in the first Essay, it says nothing about the dose, except that it must be smaller than that which is proved in health. Find the remedy first by the rule of *similia similibus curantur*, if you can, then antipraxy will help you to find the dose. The actions of small doses of drugs are contrary to diseases because they are contrary to the actions of the larger doses which are similar to diseases. Antipathy, in the sense now given to it, is not the contrary remedy, but the contrary dose. If there were any force at all in the objection it would be against homœopathy and the choice of the remedy, not against antipathy and the choice of the dose.

26. The observation referred to in the last paragraph is not an *objection* to either homœopathy or antipathy, but it embraces a great *difficulty*—one which thoughtful

homœopathists are made to feel every day. It is said by the same objector that "the rule of *similia similibus* is always available if only we have a drug which has caused the *simile* of the disease before us." True, but we have not yet this simile always before us. What drug has been proved till it has brought on a morbid state resembling cancer? All practitioners are still baffled by some forms of hysteria; by many skin diseases; by spinal affections and the paralysis proceeding from them; and by nearly all malignant tumors. Our present ignorance in regard to remedies for such diseases as these is an enormous difficulty, but it is not an objection to the knowledge we have been permitted to acquire in regard to the treatment of other diseases. The law of *similia*, which is an induction from the effects of the larger doses in health, and the law of antipraxy, which is an induction from the effects of the smaller doses in health, cannot be proved false by any amount of difficulties such as these. "True fortitude of mind," says Paley, "consists in not suffering what we do know to be disturbed by what we do not know." Difficulties are not objections.

27. Such are the criticisms and objections of others so far as I am acquainted with them. The difficulties which are present in my own mind are chiefly two.

First, the delicacy and care required in experiments with small doses. This, no doubt, is a serious difficulty, but it is one which attends all experiments in modern physical science. In our time, every research must be made not only with delicacy and care, but with extreme accuracy, if it is to gain credence and reception. This difficulty is overcome every day in other branches of knowledge, and it is hoped and believed that the same pains will overcome it in experiments with small doses.

28. The second difficulty is one which attaches to all medicine. It arises out of our want of more knowledge. With regard to the nature of many chronic and nearly all organic diseases we are still very ignorant; even of the seat or locality of some ailments we are doubtful. And, of course, this ignorance presses

heavily upon every new underta
pathy has already added man
remedies to our former slender
reasonably expected to reward furt
upon it by adding many more. A
presents new remedies, antiprax
proper doses.

29. The truth upon this difficult
of drugs on the living body of
disease—is, no doubt, in itself pe
in the bright light of an infinite i
clear and plain. But to our finite
with the dust of ignorance, pr
jealousy beclouding them on ever
dimly seen. If, however, we look
we can, we may see something o
fection, though not much. If we
others what we see, another great
the imperfection of our languag
which we thus imperfectly see is
the picture we can paint of it; f
more subtle than our language, an
our minds are far more numerous
we can find to express them.

30. With a deep consciousness o
and defects, these Essays are resp
ately presented to my medical bre
be as patiently read as they have b
if a favourable construction may
some reproach may be wiped aw
ledged imperfections of medicine,
result to suffering humanity.

March 20th, 1874.

ESSAY XXVI.

ORGANS HAVE THEIR OWN DOSES.

"All yet seems well; and if it end so meet,
The bitter past, more welcome is the sweet!"
"ALL'S WELL THAT ENDS WELL."

"Vive, vale, si quid novisti rectius istis
Caudidus imperti; si non, his utere mecum."
HORACE.

"Farewell! and if a better system's thine,
Impart it frankly, or make use of mine."
FRANCIS.

ESSAY XXVI.

ORGANS HAVE THEIR OWN DOSES.

"Nos jam sub initiis et ad tempus tantum *lucifera* experimenta, non *fructifera* quærere." LORD BACON, *Nov. Org.*

"Now at the beginning and for a time, we seek only *Light-bringing*, not *Fruit-bearing* experiments." KITCHIN.

IT is night with us. Experiments are torches. Intellectually we are living in a darkened world. We have no day light, and see nothing but by torch light. When we have made an observation or tried an experiment, and have thought about it, we have brought flint and steel into collision, and have struck a spark; some of these sparks kindle a torch, and by its light we take a step in advance. This is true of medicine. It is true of all natural knowledge. We have to thank God that, for our moral and spiritual progress, we have the *Lamp* of His Word to guide us, which is a much brighter and steadier light than any of our own torches.

By this torch-light let us proceed. Every "light-bringing" experiment is a fresh torch.

It may contribute to the better understanding of antipraxy—the contrary action of the larger and the smaller doses—if we go a little further into its details, and try to examine more carefully the various actions of different doses of drugs. We shall find that each organ as well as each drug has its own two ranges of doses. This will necessitate new experiments, which may, perhaps, suggest new thoughts. A reward will accompany them if they are torches or light-bringing experiments.

By this increasing light we may go on weaving our piece of tapestry. The thread to be gathered up, in order to continue the work, will be found in the 'Letter to Sir Benjamin Brodie'; and a rather long quotation will be necessary, but time will be saved by it.

" . . . All which fluctuations (in the dose) must continue to prevail, as they do in the old school, so long as, in both cases, the subject is one of personal experience only.

"A question of great interest, therefore, arises: can any law or principle for the selection of the dose be discovered, as there has been for the remedy?

"The earlier homœopathic writers answer this inquiry by a direct negative. . . . Later authorities are of the same way of thinking. . . .

"The truth is that so long as physicians looked only in the direction of the disease and the patient, Sydenham's earnest wish for the possession of a 'fixed, definite, and consummate method of healing' could not be attained, though pursued for many centuries; and in like manner, while the attention of practitioners is directed only to the same objects, the possession of a fixed rule for the dose will be equally unattainable. But no sooner was the direction changed, and the thinking mind turned towards the drug as well as towards the disease, than the first law of healing was laid hold of, imperfectly, indeed, at that time, but so as to admit of more distinct and accurate definition now. And if we tread in the same steps, if we look in the same direction, that is, if we examine the drug with more care and precision, we shall find the law of the dose. It is the counterpart of the law of the remedy, and may be expressed provisionally in these words :—

"Different doses of the same drug taken in health, select different organs on which to act injuriously.

"Corresponding but smaller doses of the same drug are to be given as remedies in the diseases of the organs which they select."

An example is given as an illustration, from Christison :—

"Oxalic acid. This drug as a poison acts in the largest doses upon the alimentary canal; in smaller ones upon the heart; in still smaller upon the spinal cord; and in the smallest upon the brain.

"According to the rule just expressed, this drug must be given in corresponding but smaller doses as a remedy. If for an affection of the brain, the dose must be the smallest which will produce any effect; if for one of the spine, a somewhat larger dose will be required; if for a disease of the heart, the dose is to be still further increased."[1]

It is to be noticed that the conclusions with respect to the action of oxalic acid drawn by Professor Christison, were from experiments on dogs. How far they are applicable to man must be ascertained by experiments upon ourselves.

For this purpose the following provings of it were undertaken :—

Oxalic acid.

1874, April 11.

7.0 P.M. Pulse 72. Five hours after taking food.
7.5 " Oxalic acid $\frac{1}{10}$th of a grain taken in 10 minims of water. Taste strongly acid.

7.10 P.M. Pulse 76.
7.15 " " 72.
7.20 " " 70.
7.30 " " 70.

Soon after 8 o'clock, giddiness; with slight griping; loose motion; and a little nausea.

8.30, called out to visit a patient.

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[1] 'Letter to Sir B. C. Brodie,' p. 109. 1861.

On returning soon after 9 had a cup of cocoa. Went to bed at 10.30, when the pulse was about 60.

The inferences which, I think, may be drawn from this proving are these: that its principal action was upon the stomach and bowels—a little more would have produced vomiting and diarrhœa—and that it is too large a dose to be given as a remedy in disease.

April 13. 11.50 A.M. Three hours after breakfast.
Pulse 82. Breathings 14.

Oxalic acid $\frac{1}{20}$th of a grain taken in 100 minims of water. Taste still quite acid.

11.55	Pulse 86.	Breathings 16.
12.0	„ 80.	„ 15.
12.15	„ 82.	
12.30	Attention diverted.	

April 14. (Last experiment continued.) After going to bed last night the heart made its beatings sensible in an unusual manner, and attracted attention. To-day the bowels have been moved three times, and rather relaxed, which is unusual also.

April 15. 11.15 A.M. Pulse 72.

Oxalic acid $\frac{1}{100}$th of a grain taken in 100 minims of water. Taste slightly acid.

11.20	Pulse 72.	
11.30	„ 68.	
11.45	„ 72.	
12.0	„ 68.	A second dose taken.
12.15	„ 68.	
12.30	„ 68.	

April 16. From these light-bringing experiments, and from the fact ascertained by Christison and Coindet, that oxalic acid is very quickly decomposed either in the blood or in the lungs, (it contains carbon and oxygen only,) we may see that its action is too violent to allow doses of a tenth of a grain to be given even as a remedy; that in this dose it acts on the stomach and bowels; that in doses of the twentieth of a grain it acts on the heart; that in doses of a hundreth

of a grain its action is feeble and transitory. No action on the spine or spinal nerves could be traced in the provings. Should this be confirmed by others, the experiments of Christison on dogs will be another example of the untrustworthiness of such experiments as regards the action of drugs on man. The speedy decomposition of the drug indicates that it can have no prolonged action. Its use, therefore, as a remedy will probably be limited to cases of urgency and short duration; such, for instance, as cholera. Some experiments have been tried in America with the first, second, and third triturations. It seems to me a mistake to make triturations of a soluble salt.

Chamomilla.

Of the doses of chamomilla Hahnemann says, "A drop of the third dilution is sufficient to cure, in every instance; in many cases it acts too powerfully."[1]

Dr. Hughes says, "The facts about the dose of chamomilla are among the most curious that homœopathy presents. Of very little pathogenetic activity in its crude state, 'the low dilutions,' as Dr. Holcombe truly says, 'of certainly no more value in disease than catnep or mint teas.' Chamomilla begins at about the sixth potency to manifest its great curative powers, and may often be given with advantage as high as the eighteenth. The twelfth is my own favourite dilution. These facts are vouched for by homœopaths generally: their significance is at present doubtful."[2]

Dr. Hughes will suffer me to point out that the word "pathogenetic" (disease generating) followed immediately by Dr. Holcombe's remarks on the value of chamomilla as a remedy (disease curing), is a confusion of thought.

Hahnemann does not tell us what doses were used in his provings, but he gives us about five hundred symptoms of chamomilla, and introduces them with this remark, "Although the following symptoms do by no means present a complete list of the curative powers of chamomilla, yet they are sufficiently numerous to show that chamomilla belongs to the class of polychrests." As he adds, "A large dose acts for some days," large doses of some kind must have been used.

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[1] Hahnemann's 'Materia Medica Pura,' Vol. II, p. 3.

[2] Hughes' 'Manual of Pharmaco-dynamics,' p. 206. 2nd edition. 1870.

That chamomilla in appreciable doses produces pathogenetic symptoms, or symptoms in health, must be granted, if Hahnemann's provings of it are to be believed.

That chamomilla acts as a remedy only in dilutions from the sixth upwards, I must take leave to say is a great mistake.

The sixth and twelfth dilutions may be sufficient doses to quiet the nervous system of children while teething; but certainly other organs and their diseases are acted upon beneficially by much larger doses.

I have proved the first dilution, (one hundredth of a drop of the sap of the plant), sufficiently to learn its action on the liver. On a healthy person its effect is to produce motions like those of a healthy baby; it increases the secretion of healthy bile. This is a torch; a "light-bringing" experiment; and the curative action of this dose, in diseases of the liver, I have witnessed many times. Two cases shall be given as examples:—

Jaundice.

1871, June 14. Visited Mrs. —— aged 50; married four years; has had one child, now nearly two years old; three years ago suffered from spasmodic pains near the region of the right ovary, and was taken up to Mr. Spencer Wells for this; he gave no opinion; these pains went away when the pregnancy began, and have not returned; could not nurse; the catamenia have scarcely returned since. In March last she was suddenly seized with pain in the abdomen, and jaundice, and has been very ill ever since. The physician who has attended her during these three months at length intimated to her husband that he feared nothing more could be done for her. She has no appetite; is very thin and weak; the motions are light-coloured, and the urine red; there is no jaundice at present; she is confined to bed. A drop of tinct. cham. 1 three times a day was prescribed.

June 19. She was better; the chamomilla was repeated.

24. The conjunctiva to-day was yellow.

July 4. Has been made very ill by eating lobster; is very yellow; urine very high coloured; motions slate coloured. A few doses of pulsatilla, mercurius, and cinchona were tried, but she grew worse, and on

July 11. The chamomilla was returned to, and continued. There were great difficulties about food; but on

August 1. She was very much better. The chamomilla was continued a little longer; and on

August 21. She was quite well: the motions and urine natural; appetite very good; the jaundice entirely gone; and the tongue clean. She was down stairs.

1874, May 14. Has continued in good health.

Diabetes.

The presence of sugar in the secretion of the kidneys is a symptom which, in different cases, is associated with very different morbid conditions. In the following case it appeared to me that the principal derangement was in the stomach and liver.

1871, July 24. Visited Mrs. ——, an elderly lady, suffering from a troublesome cough; indigestion; constipation; pruritus; great thirst; lassitude and depression; passes a large quantity of water, containing not albumen, but sugar; specific gravity 1038. A few doses of sulphur were given before the examination of the water could be made. On

August 1. Chamomilla, a drop of the first dilution night and morning was prescribed.

August 21. She was better; the constipation continued; specific gravity of the water 1025. The diet was of animal food in moderation, but not exclusive of vegetables. The chamomilla continued in the morning, and a dose of lycopodium at night.

August 28. Much better; bowels relieved; specific gravity 1018. Chamomilla continued.

October 2. Urine quite natural; the cough, the indigestion, the constipation, the thirst, the lassitude and depression, have disappeared.

1873, October 29. Has had no return.

These are "fruit-bearing" experiments.

Belladonna.

Experiments with belladonna are in progress, but not sufficiently complete for publication, and the printer has overtaken me. One remark, however, may be made on belladonna as a *preventive* of scarlet fever. The contradictory testimonies on this subject are well known. It seems to me plain that when belladonna is given to healthy persons, with the intention of preserving them from taking the infection from patients suffering from scarlet fever, it should be given in doses large enough to produce some pathogenetic effect. Some action of the drug should be manifested, though probably this need not be much. I do not see how protection can reasonably be expected without this proof that the constitution has recognised the presence of the drug. We do not expect vaccination to protect a child from small-pox when it has failed to take effect on the arm. We repeat the operation till it takes effect.

Crocus.

While we are studying the action of different doses upon different organs of the body, it will be well to notice again the fact that doses of some drugs may be so large as to produce no effect at all upon any organ; and to add to the notice that this fact does not prove that smaller doses will be equally inoperative.

This gives me an opportunity of paying a grateful tribute of praise to William Alexander, of Edinburgh, who was a true pioneer in the proving of drugs. Nor did he desist from these experiments till, from one of them in which he took two scruples of solid camphor, he very nearly lost his life. His book is so scarce that it is necessary to copy one of his provings of saffron to make what I have to say upon it intelligible.

He tried four experiments with crocus sativus. In the first he took ten grains; in the second, one scruple; in the third, two scruples; and the following is the fourth experiment:—

"Some days after this (third experiment) I took four scruples of saffron. This had no manner of effect, either on the mercury in the thermometer at my stomach, or on my pulse; so that I concluded that the remarkable diminution of it in the last experiment had not been owing to any effect of the saffron, but to some other cause. Though this dose was very much larger than any that are commonly given, yet I neither was sensible of the smallest effect from it, nor from any of the others; and therefore I desisted from taking any more, being fully persuaded that, if the dose of saffron is to rise above a few scruples, there are few patients who will ever be prevailed on to take it, as it has a nauseous, disagreeable taste, and can hardly be disguised by mixing it with any other preparation."

After noticing the opinions of Galen, Boerhaave, and others, as to its supposed powerful action, he concludes by saying:—

"I cannot help thinking that it is a medicine (if it deserves that name) just as innocent and as useless as any in all the materia medica."[1]

One reason which may be assigned for the absence of any effect from these large doses is the crude state in which the drug was taken. Four scruples of solid saffron may pass through the alimentary canal as an ounce of quicksilver does, and so become inoperative.

Yet when we remember the experiments of M.M. Trousseau and Pidoux with half-ounce doses of asafœtida, and other provings of very large doses of drugs, it is necessary to conclude that there is also some other reason. But whatever may be the reasons of the want of action of large doses of some drugs, it is important to know that this does *not* prove that smaller doses of the same drugs will be equally powerless.

---

[1] 'Experimental Essays' by William Alexander, 'Surgeon in Edinburgh,' p. 90. 1768.

That small doses of the tincture of crocus produce effects, I have ascertained by proving them upon myself, but the experiments require to be repeated before they can be published. As I have already said, the printer has overtaken me, and these, along with experiments with small doses of antimony, ipecacuanha, and some other drugs, must be postponed.

Time fails me to do more. It is passionately hoped that others will take up this work; there is an endless amount of it remaining, so that no science-loving Alexander need weep; and we cannot do better than go on working. Work is one of the best blessings o life. An idle man, said Erasmus, is "telluris inutile pondus;" which has been translated by an old worthy "an unprofitable lump of unoccupied earth." Horace was more severe and, it is to be feared, more true :—

> " . . . . et ni
> Posces ante diem librum cum lumine, si non
> Intendes animum studiis et rebus honestis
> Invidiâ vel amore vigil torquebere!"
>
> *Epist.* I. 2.

> "Unless you light your lamp ere dawn, and read
> Some wholesome book that high resolves may breed,
> You'll find your sleep go from you, and will toss
> Upon your pillow, envious love-sick, cross!"
>
> *Conning ton.*

Let me once more repeat that we do not wan hypotheses, but facts; not opinions, but truth. It was well said by old Quincy, "It is better to be contented with what is known (or may be known) and of use than to advance strange Notions and form grand Ideas of what we don't understand."[1] In the more elegant words of Cicero "sufficit si *quid* fiat intelligamus, etsi *quomodo* fiat nesciamus." It is enough if we understant *what* is done, although we are ignorant *how* it is done. The greatest obstacles to the progress of knowledge are hypothetical explanations.

In this search after truth we may sometimes be misled and go astray: some of our facts may not have been correctly observed, and so part of our supposed truth may be error. Still this is the only right path, the only way in which medical certainty can be most nearly approached. And "to make mistakes, as we are on the way to knowledge, is far more honourable than to escape making them through never having set out to seek knowledge."[2]

The best safeguard against the disposition to invent hypotheses by speculation, is to perceive that there are natural limits to our knowledge, and to be convinced that we cannot pass them. The best policy is to try to discover these boundaries, and to keep within them. There is nothing more important than this.

If my readers will look back upon the work done in these Essays, they will see that an attempt has been made by torch light to take an inventory of the furniture in the temple of therapeutics.

They will see that the vestibule of this temple is furnished with *the proving of drugs in health.* We have fixed our eyes with great earnestness on many of the objects which this spacious vestibule contains.

What the prism is to the sun's light, the healthy body is to drugs. As experiments with the prism separate and exhibit the various colours in the compound ray of white light, so experiments on the healthy body exhibit the various actions of different drugs and doses, so that they can be distinguished and defined. Those who have tried these experiments can recognise them in the pictures of them given in books; others can only obtain an imperfect acquaintance with them from the pictures; this however is sufficient to be a useful guide. But these are "stringent times;" like those of which it has been said that "no algebraic formula, but only *direct vision* of the relation of things would suffice a man;"[1] and we are all bound to obtain this direct vision to the extent of our ability and opportunity.

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[1] 'English Dispensatory,' p. 251. 10th ed. 1736.

[2] Trench, 'On the Study of Words,' p. 228.

The first chamber in the temple is furnished with *the local action of drugs.* The general fact of the action of each drug on a portion only of the living body, and that whether the body is in a sound or unsound condition, has been made abundantly manifest. "It must be confessed to be so probable that there can be no argument to disprove it.[2] Indeed, it seems impossible to entertain any doubt of its truth. The use of this general fact or law in therapeutics has been called *Organopathy.*

We have entered the next chamber, and are not yet so familiar with its furniture. We shall become so in time. It is occupied with the various *kinds of actions* of drugs. We have to learn *what* they are, not *how* they are produced. It appears that each drug has two series of doses having contrary actions, or actions showing an opposite tendency or direction. The series of larger doses act in one direction, that of the smaller ones in the opposite. It appears also that each organ or part of the body has its own two ranges of doses possessing these contrary actions. This general fact or law has been called *Antipraxy.*

The action of the larger doses is more or less poisonous in health, and it is injurious in disease. It resembles the action of other causes of disease. The effects it produces indicate the various *drugs to be given as remedies* in smaller doses for similar diseases of the locality where the action takes place. This chamber of the temple is *Homœopathy*.

---

[1] Thomas Carlyle's 'Letters on Cromwell.'

[2] Pearson.

The action of the smaller doses in the contrary direction to that of the larger ones, indicate the *doses to be given as remedies*. The action being in the opposite direction to that of the larger doses, which is similar to the disease for which the drug is prescribed, must also be in the opposite direction to that of the disease. This chamber is *Antipathy*.

The vestibule and four chambers of this temple have been entered, and explored to the extent the torch-light has permitted. Innumerable objects of value and usefulness remain in them not yet seen nor described.

Other chambers in the penetralia of the vast temple of healing are yet unexplored. New light-bringing experiments will be needed. Guided by these torches, may many enter in and advance further with reverent steps!

Such, then, are the results of this investigation of the most famous systems of medicine, and especially of the system of Hahnemann.

It has been carried on for many years in the midst of daily professional employment; in the midst of the cares and duties of a large family; and with all the defects and failures attendant upon every human effort.

In spite of all these obstacles some useful principles have been described, and many unsatisfactory conjectures and hypotheses have been pointed out.

Some writers are like the rivers in Australia; their early course is beautiful and fertilizing; but they flow in the wrong direction, and lose themselves at length in the quicksands of fancy. Hahnemann was one of these. His later works have run to waste, to the great damage of his cause, and of his reputation.

Other writers resemble the rivers of Europe and of

America. They are, it may be, but petty strea their beginnings, but they flow on, ever widenin deepening, until they reach the ocean of eternal t

May God grant that these small streams of l these rivulets of Essays, may thus flow into a wid and deepening river, which may water and make ful the fields of medicine, and never dry up. O river may it be said with truth :—

> " Labitur ;—et labetur in omne volubilis ævum.

May 18th, 1874.

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